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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MSC-07361

Revision A

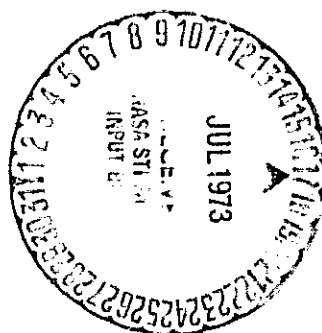
APOLLO 17 MISSION EVALUATION PLAN

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MANNED SPACECRAFT CENTER

HOUSTON, TEXAS

SEPTEMBER 1972

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MSC-07361
Revision A

APOLLO 17 MISSION EVALUATION PLAN

PREPARED BY

Apollo Test Division

APPROVED BY

A handwritten signature in cursive script, reading "Owen G. Morris", is written over a horizontal line.

Owen G. Morris
Manager, Apollo Spacecraft Program

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
MANNED SPACECRAFT CENTER
HOUSTON, TEXAS
September 1972
Revised November 1972

PREFACE

This plan contains information for the MSC Mission Evaluation Team in support of the Apollo 17 prelaunch checkout and the mission. Key personnel are identified and their responsibilities are defined. The interfaces of the Mission Evaluation Team with the launch center during pre-launch testing, and with the Spacecraft Analysis and Flight Control Teams during the mission, are also explained. The plan is written in two parts. The first part defines the Mission Evaluation Team support to the Launch Center commencing with the subsystem checkout performed on the pad (Test and Checkout Procedures K-0005 for the CSM and KL-0045 for the lunar module). The second part defines the continuous support provided during the mission to the Spacecraft Analysis Room and, subsequently, to the Mission Operations Control Room at MSC. The second part will be updated about 30 days prior to the mission to reflect personnel and measurement changes.

PART A - PLAN FOR MSC MISSION EVALUATION TEAM SUPPORT OF
APOLLO 17 FRELAUNCH TESTS CONDUCTED AT KSC

SCOPE

The MSC Mission Evaluation Team will provide support to KSC for all checkout activities commencing with the start of pad operations (figure A-1). Three-shift coverage will be provided during all prelaunch checkout operations.

RESPONSIBILITIES

KSC shall be responsible for determining the existence of a problem and for requesting assistance. The MSC Mission Evaluation Team will be responsible for developing and providing the technical solution of the identified problem, utilizing both contractor and government resources.

ORGANIZATION

The MSC Mission Evaluation Team will operate under the same organizational structure as that used during flight, with the Mission Evaluation Team Manager (or a designated Team Coordinator) heading a team composed of several Analysis Managers, each of whom is supported by a NASA/contractor team. The MSC Mission Evaluation Team organizational elements (given in part B of this plan) will be in effect during the prelaunch test support with the following exceptions:

1. The Spacecraft Analysis (SPAN) Room will not be active during this period.
2. The Mission Evaluation Team, located in building 45, will interface directly with KSC.

The Resident Apollo Spacecraft Program Office (RASPO) at KSC shall provide required MSC Mission Evaluation Team coordination with KSC and shall be responsible for maintaining a duplicate set of records of all activities.

Contractor Engineering support shall be provided through the mission support rooms located at each prime contractor's facility. Contractor coordination representatives from the Grumman Aerospace Corporation and

the North American Rockwell Corporation shall be located in, or be "on call" to, the Mission Evaluation Room (room 306C, building 45) at MSC. These representatives shall be responsible for providing the contractors' input on all problems.

Entry to Building 45

Building 45 will be open 24 hours a day throughout the mission. However, building 45 will be locked each day during prelaunch monitoring from 6 p.m. to 7 a.m. Entry during these hours can be gained by using the intercommunications between the mission evaluation room (306C) and the east rear door (door closest to building 30). Access will be validated by a regular Manned Spacecraft Center badge.

EVALUATION TEAM MEMBER DUTIES

Evaluation Team Manager

The Evaluation Team Manager shall be responsible for management of the problem evaluation activity and ensuring that the best technical solution is supplied in a timely manner. In addition, he shall keep upper management informed of those test problems which are significant. He shall also issue a list of significant problems as needed.

Team Coordinator

A designated Team Coordinator shall be responsible for monitoring the KSC voice loops in building 45 and contacting the appropriate Analysis Manager to inform him of any requests. He shall maintain records of action sheets in building 45 and inform team members of the current test schedule. He shall also insure that team members, assigned in table A-I, are on station as required. This includes contractor and NASA team members who are at KSC for particular tests as defined in table A-I. In addition, he shall issue copies of records to the contractors and Analysis Managers.

Analysis Manager

Each manager shall be responsible for coordinating and managing activities of all assigned NASA and contractor team members in his area of responsibility. As during the mission support activity, the Analysis Managers shall report to the Evaluation Team Manager.

Team Member

Each team member shall be responsible for the engineering analysis and evaluation of the problems within the scope of his specialty and shall report to his respective Analysis Manager.

Contractor

Contractors shall maintain a communications system whereby contractor team members, as delineated in table A-I, may be contacted at any time by an Analysis Manager. The contractor shall submit inputs to building 45 and respond to requests in the same manner as that employed during the mission.

COMMUNICATIONS

Communications Links

The communications links to be utilized for prelaunch activities are described in figure A-2. All official communications between MSC (NASA and contractor personnel) and KSC are to be documented on forms shown in figures A-3 through A-6. Initial requests for assistance and final resolution of problems must be made through official channels; however, the utilization of unofficial communications links is encouraged, and each Analysis Manager shall interface with his contractor and KSC counterpart to the degree required to provide the most accurate and timely technical solutions.

Two-way communication between KSC and building 45 is available on the command and service module and lunar module troubleshooting channels at KSC.

Facsimile (MagnaFax) facilities will be available in building 45 for the purpose of transmitting the official request and response forms and for transmitting other pertinent data.

Voice communications for Mission Evaluation Room

The following circuits will be available from September 11, 1972, through launch. (Exceptions are noted in items c and d.)

a. Monitor Circuits:

| <u>CSM</u> | <u>LM</u> |
|-----------------------|-----------------------|
| OIS 212 MSTC | OIS 231 Pad Leader |
| OIS 213 Instr | OIS 232 STE |
| OIS 214 Comm | OIS 233 EPS |
| OIS 215 G&N | OIS 235 SCS |
| OIS 216 RCS | OIS 236 RCS |
| OIS 221 Pad Leader | OIS 237 ECS |
| OIS 222 TPE | OIS 242 LM STC |
| OIS 223 EPS | OIS 243 Instr |
| OIS 224 F/C Cryo | OIS 244 Comm |
| OIS 225 SCS | OIS 245 G&N |
| OIS 226 SPS | OIS 246 Prop |
| OIS 227 ECS | OIS 252 Trouble-shoot |
| OIS 268 Trouble-shoot | |

b. Monitor and Talk Circuits:

OIS 268 CSM trouble-shoot
 OIS 252 LM trouble-shoot
 Apollo Chief Engineer (longline GP58254)

c. From September 11 to T minus 3 hours of the Flight Readiness Test¹, OIS 212, 221, 222, 268, 242, 231, 232, 252, and Apollo Chief Engineer lines will have full-time monitoring capability. The systems circuits listed will be monitored on four² additional lines as requested by the Mission Evaluation Room.

d. From T minus 3 hours of the Flight Readiness Test until the end of the Flight Readiness Test, from T minus 9 hours of the CDDT until the end of the Dry CDDT, and from T minus 9 hours to the terminal count until launch, OIS 212, 222, 242, 232, Flight Director, and Apollo Chief Engineer lines will be monitored full time. The systems circuits listed will be monitored on 10 additional lines as requested by the Flight Controllers. The CSM Comm 214 Launch Conductor circuit will be on one of these lines during the final part of the count.

¹Also after the Flight Readiness Test except as noted in item d.

²Ten additional lines after the Flight Readiness Test.

The following circuits will be available from launch to end of mission.

a. Monitor Circuits:

- Flight Director
- GOSS Conference
- GOSS ⁴
- ALSEP Systems
- ALSEP Net
- ALSEP GOSS
- PI Coordination
- Air-to-ground-2 (GOSS 2)
- GCTA Coordination¹
- AFD Conference¹
- Science Coordination
- Sim PI
- EO Conference
- SSR Conference¹

b. Monitor and Talk Circuits:

- Apollo Chief Engineer
- MIT Engineering

¹These loops are monitored in building 45 only during the lunar orbit portion of the mission.

TABLE A-I.- MISSION EVALUATION TEAM

| <u>NAME</u> | <u>Office Code</u> | <u>Office phone</u> | <u>Home phone</u> |
|---|------------------------|-------------------------|-------------------|
| D. D. Arabian, Manager | PT | 3937 | 333 4707 |
| <u>Mission Evaluation Team Coordinators</u> | | | |
| D. Camp | PT7 | 6161 | 479 1953 |
| D. Suiter | PT7 | 6161 | 479 2436 |
| W. Andrews | PT4 | 4549 | 488 0597 |
| A. Reubens | PT14 | 2074 | 488 0053 |
| O. Stafford | PT14 | 2074 | |
| R. Gadbois | PT14 | 3645 | 334 2423 |
| T. Libby | PT4 | 4549 | 333 3258 |
| T. Grace | PT4 | 4549 | 482 7967 |
| C. Laubach | PT4 | 4549 | 946 4206 |
| D. Hamilton | PT14 | 2074 | 723 2984 |
| J. Mechelay | PT2 | 5427 | 337 1938 |
| J. Lobb | PT14 | 2074 | 664 0740 |
| <u>Telecommunications</u> | | | |
| <u>Team Leaders</u> | | | |
| R. G. Irvin, Analysis Manager | EE13 | 4647 | 482 2222 |
| A. D. Travis | EE7 | 4436 | 534 2053 |
| E. E. Lattier | EE13 | 4649 | 534 2756 |
| <u>MSFN Communications</u> | | | |
| C. L. Royston | EE7 | 4436 | 487 2739 |
| B. G. Myers | EE7 | 4436 | 944 6142 |
| R. B. Schuck | LEC | 4905 | 482 3555 |
| J. Krafta | LEC | 6108 | 481 3102 |
| J. C. Logan | LEC | 6108 | |
| P. A. Ahlberg | LEC | 6108 | |
| <u>CSM Communications</u> | | | |
| M. B. Luse | EE13 | 4647 | |
| L. J. Davidson | EE13 | 4647 | 488 3620 |
| R. J. Ensley | EE13 | 4647 | 877 2018 |
| D. S. Eggers | EE3 | 2555 | 946 7004 |
| W. Dwinell | NR | 213-922-1856 | |
| K. Gilson | NR | 213-922-1616 | |
| C. Zemenick | NR | 213-922-4828 | |
| W. McQuerry | NR | 213-922-1615 | |

TABLE A-I.- MISSION EVALUATION TEAM - Continued

| <u>Name</u> | <u>Office code</u> | <u>Office phone</u> | <u>Home phone</u> |
|----------------------------|------------------------|-------------------------|-----------------------|
| <u>LM Communications</u> | | | |
| R. H. Dietz | EE13 | 4647 | 534 3665 |
| D. E. Rhoades | EE13 | 4647 | 482 3085 |
| D. M. Blackman | EE3 | 2555 | 488 0672 |
| H. D. Cubley | EE3 | 2555 | 488 2248 |
| L. Ottenberg | GAC | 516-575-7782 | |
| E. Griffin | GAC | 516-575-9401 | |
| <u>Radar</u> | | | |
| P. Rozas | EE6 | 3669 | 433 5153 |
| A. R. Cunningham | EE6 | 2189 | 488 3912 |
| E. Uttendorfer | GAC | 516-575-2949 | |
| V. Welch | RCA | 516-575-2179 | (617) 933 3158 |
| R. Mark | RCA | 3603 | (617) 369 5392 |
| V. Pohl | Ryan | 7351 | (714) 442 3908 |
| S. Boles | GAC | 516-575-1117 | |
| E. Dickerson | TRW | 9-333-3133 x3201 | |
| M. Zutek | TRW | 9-333-3133 x3201 | |
| <u>VHF Ranging</u> | | | |
| P. W. Shores | EE6 | 2189 | 488 1063 |
| W. C. Panter | EE6 | 2189 | 941 2106 |
| <u>Television</u> | | | |
| O. L. Graham | EE2 | 4191 | 645 7250 |
| W. E. Perry | EE2 | 4191 | 471 0696 |
| R. C. Edmiston | EE2 | 4191 | 643 4030 |
| P. P. Coan | EE2 | 4191 | 488 1028 |
| T. Devlin | LEC | 2236 | 944 9029 |
| J. Stevenson | LEC | 2336 | 336 5697 (Liberty) |
| <u>Crew Communications</u> | | | |
| R. W. Armstrong | EE2 | 4926 | 554 6248 |
| W. C. Morgan | EE2 | 4947 | 877 2119 |
| J. P. Anderson | RCA | 4057 | |
| J. Feltus | RCA | 4057 | |
| R. Black | RCA | 4057 | 944 0728 |

NOTE: The TV team will normally be located in building 440 during the mission with "hot line" telephone connection to telecommunications team leaders stationed in building 45, room 306C.

TABLE A-I.- MISSION EVALUATION TEAM - Continued

| <u>Name</u> | <u>Office code</u> | <u>Office phone</u> | <u>Home phone</u> |
|--|------------------------|-------------------------|-------------------|
| <u>Lunar Communications Relay Unit</u> | | | |
| R. L. Sinderson | EE16 | 4507 | 946 0687 |
| J. D. Miller | EE16 | 4507 | 471 4390 |
| C. Haddick | LEC | 3761 | 944 4462 |
| <u>Lunar Sounder</u> | | | |
| W. C. Panter, Team Leader | EE6 | 2189 | 488-5907 |
| R. C. Kelly | EE6 | 5561 | 481-3089 |
| J. C. Sloan | EE3 | 2555 | 482-7134 |
| J. Marushak | NR | | |
| G. Covington | NR | | |
| R. Jordan | JPL | | |
| <u>Crew Systems and Environmental Control System</u> | | | |
| P. Hurt, Analysis Manager | EC13 | 4823 | 482 7837 |
| F. Samonski | EC3 | 2171 | 334 1869 |
| D. Hughes | EC3 | 5537 | 488 5569 |
| W. Guy | EC2 | 2351 | 482 7318 |
| <u>Crew Equipment</u> | | | |
| F. McAllister | EC7 | 4287 | 333 3590 |
| N. Hadjigeorge | GAC | 6182 | |
| W. Reveley | EC7 | 4278 | 427 3973 |
| K. Gravois | GE | 4278 | 488 4078 |
| R. Hill | GE | 4278 | 333 4705 |
| <u>Command and Service Module Environmental Control System</u> | | | |
| H. Rotter | EC3 | 5536 | 488 6067 |
| J. Ross | NR | 213-922-1160 | |
| W. Owens | NR | 213-922-3661 | |
| R. Young | TBC | 5536 | 334 1022 |
| D. Stevenson | TBC | 5536 | 488 2129 |
| <u>Lunar Module Environmental Control System</u> | | | |
| J. Brady | EC3 | 5536 | 534 3867 |
| J. Sheehan | GAC | 516-575-1455 | |
| R. Goalwin | GAC | 516-575-1455 | |
| R. Holmes | GAC | 516-575-1455 | |
| D. Browne | TBC | 5536 | 944 0853 |
| B. Spain | TBC | 80-618 | 482 1677 |

TABLE A-I.- MISSION EVALUATION TEAM - Continued

| <u>Name</u> | <u>Office code</u> | <u>Office phone</u> | <u>Home phone</u> |
|-------------------------------------|------------------------|-------------------------|-------------------|
| <u>Extravehicular Mobility Unit</u> | | | |
| J. McBarron | EC9 | 4451 | 474 4663 |
| M. Carson | EC6 | 3770 | 946 0319 |
| J. Gibson | EC2 | 2351 | 944 3385 |
| M. Rouen | EC6 | 3771 | 644 7407 |
| J. O'Kane | EC9 | 4451 | 482 7873 |
| A. Gross | ILC | 2025 | 591 3057 |
| T. Sanzone | HSD | 488-2762 | 333 2749 |
| <u>Structures and Mechanics</u> | | | |
| P. D. Smith, Analysis Manager | ES12 | 2626 | 946 1895 |
| <u>Structural Analysis</u> | | | |
| R. D. Schwartz | ES2 | 4391 | 643 1986 |
| R. Nieder | ES2 | 4391 | 643 4889 |
| S. Weiss | ES2 | 2276 | 645 2731 |
| G. Sanders | ES2 | 2276 | 485 1509 |
| R. Lusk | NR | 213-922-2168 | |
| J. Strakosch | GAC | 516-575-7598 | |
| W. Hauck | GAC | 516-575-1781 | |
| <u>Structures and Mechanics</u> | | | |
| P. J. Hanifin | NR | 213-922-3768 | |
| <u>Recovery/Ordnance</u> | | | |
| R. B. West | ES4 | 3375 | 649 0277 |
| C. H. Lowry | NR | 213-922-3156 | |
| <u>Docking/Mechanics</u> | | | |
| R. D. White | ES4 | 3375 | 334 2289 |
| K. Bloom | NR | 213-922-2897 | |
| G. E. Campbell | NR | 213-922-2897 | |
| <u>Thermal Control</u> | | | |
| L. Palmer, Analysis Manager | ES3 | 5589 | 334 2918 |
| J. T. Taylor | ES3 | 5589 | 534 4142 |
| R. Harris | ES3 | 5589 | 488 4232 |
| R. Brown | ES3 | 3676 | 944 4622 |
| E. T. Chimenti | ES3 | 3676 | 333 3897 |

TABLE A-I.- MISSION EVALUATION TEAM - Continued

| <u>Name</u> | <u>Office code</u> | <u>Office phone</u> | <u>Home phone</u> |
|------------------------------------|------------------------|-------------------------|-------------------|
| <u>Thermal Control - Continued</u> | | | |
| J. Orsag | ES3 | 3538 | 482 1501 |
| J. Janney | ES3 | 5589 | 488 0658 |
| B. G. Hall | GE | 9-933-4511 x2210 | 488 0345 |
| V. J. Mark | GE | 9-933-4511 x2523 | 488 3354 |
| G. W. Belshaw | GE | 9-933-4511 x2523 | 488 5264 |
| H. F. Walthall | GE | 9-933-4511 x2523 | 772 6071 |
| J. Rizzuto | GAC | 516-575-9481 | |
| M. Durcan | GAC | 516-575-2910 | |
| T. B. Mobley | TRW | 9-333-3133 x2711 | 488 0203 |
| R. E. Seward | TRW | 9-333-3133 x2711 | 673 5445 |
| J. A. Smith | ES3 | 3676 | 334 3436 |
| M. A. Melgares | TRW | 9-333-3133 x2711 | 488 1148 |
| B. B. Welch | TRW | 9-333-3133 x2381 | 471 3240 |
| P. C. Merhoff | NR | 213-922-4991 | |
| J. E. Clawson | TBC | 80-275 | 488 5343 |
| R. M. Callahan | TBC | 80-275 | 488 6857 |
| C. F. Donham | TBC | 80-275 | 471 5424 |
| J. A. Utz | TBC | 80-275 | 488 4328 |
| <u>Lunar Experiments</u> | | | |
| J. Lowery, Analysis Manager | ED2 | 3827 | 482 1155 |
| H. Reinhold | Bendix | 313-769-7235 x370 | |
| W. Tosh | Bendix | 5067 | 488 3395 |
| R. Miley | Bendix | 5067 | |
| <u>Propulsion and Power</u> | | | |
| H. White, Analysis Manager | EP12 | 2161 | 649 6795 |
| <u>CM RCS</u> | | | |
| Dwayne Weary | EP4 | 4971 | 334 1181 |
| Jack Capps | EP4 | 4971 | |
| L. Jenkins | EP4 | 5371 | 488 4026 |
| Nelson Lingle | EP4 | 5371 | 488 2659 |
| N. Glavinich | NR | 213-922-1055 | |
| J. Griffiths | NR | 213-922-1055 | |

TABLE A-I.- MISSION EVALUATION TEAM - Continued

| <u>Name</u> | <u>Office code</u> | <u>Office phone</u> | <u>Home phone</u> |
|------------------------|------------------------|-------------------------|-------------------|
| <u>LM RCS</u> | | | |
| Walt Karakulko | EP4 | 4971 | 471 4844 |
| Nelson Lingle | EP4 | 5371 | 488 2659 |
| A. Small | GAC | 516-575-3792 | |
| D. Pearce | GAC | 516-575-3683 | |
| <u>SPS</u> | | | |
| Jim Wood | EP2 | 4571 | 944 0343 |
| Don Freeburn | EP2 | 2786 | 333 2462 |
| John Griffin | EP2 | 5189 | 481 3984 |
| H. Gallanes | NR | 213-922-1501 | |
| R. Smith | TRW | 9-333-3133 x3171 | 482 3603 |
| M. Glazer | TBC | 80-605 | 488 3154 |
| T. Lewin | NR | 213-922-4864 | |
| <u>DPS/APS</u> | | | |
| John Hooper | EP2 | 2788 | 471 2685 |
| W. Hammock | EP2 | 4571 | 482 7757 |
| Eldon Currie | EP2 | 4571 | 946 1923 |
| John Norris | EP2 | 2788 | 488 2276 |
| Jann Homerstad | TBC | 80-604 | 487 3666 |
| Don Harvey | TRW | 9-333-3133 x6542 | 670 1086 |
| Dan Pearce | GAC | 516-575-1193 | |
| J. Salek | GAC | 516-575-1661 | |
| T. Ervolina | GAC | 516-575-1661 | |
| <u>Fuel Cells/Cryo</u> | | | |
| S. Owens | EP5 | 3286 | 544 3011 |
| D. Bell | EP5 | 3286 | 333 2340 |
| F. Plauche | EP5 | 3286 | 474 2660 |
| D. Hydrick | EP5 | 3286 | 487 2591 |
| H. McBryar | EP5 | 3286 | 534 5246 |
| W. Chandler | EP5 | 4771 | 534 3118 |
| R. Rice | EP5 | 4771 | 481 0043 |
| R. Allgeier | EP5 | 4771 | 333 4627 |
| W. Simon | EP5 | 4771 | 333 3508 |
| J. Smithson | EP5 | 4771 | 482 7604 |
| J. Williams | NR | 213-922-3683 | |
| C. Bouman | NR | 213-922-1160 | |
| R. Fritz | P&W | 333-2162 | |
| R. Reysa | TBC | 80-605 | 488 2841 |
| W. Patterson | TBC | 80-605 | 333 4776 |
| R. Hautamen | TBC | 80-605 | 333 1664 |

TABLE A-I.- MISSION EVALUATION TEAM - Continued

| <u>Name</u> | <u>Office code</u> | <u>Office phone</u> | <u>Home phone</u> |
|------------------------------|------------------------|-------------------------|-------------------|
| <u>LM & CSM Battery</u> | | | |
| B. Bragg | EP5 | 5361 | 337 2777 |
| B. Trout | EP5 | 5361 | 944 2959 |
| J. Briley | EP5 | 5361 | 946 8263 |
| J. L. Cioni | EP5 | 5361 | 534 4783 |
| H. Horii | NR | 213-922-3441 | |
| C. Keenan | GAC | 516-575-1240 | |
| S. Feinberg | GAC | 516-575-1115 | |
| <u>Pyrotechnics</u> | | | |
| W. Simmons | EP4 | 5371 | 649 2558 |
| R. Robinson | EP4 | 5371 | 487 1656 |
| C. Keenan | GAC | 516-575-1240 | |
| <u>Electrical Systems</u> | | | |
| R. Munford, Analysis Manager | EB3 | 5814 | |
| G. Johnson | EB3 | 3171 | 554 3937 |
| L. White | EB3 | 3173 | 644 3585 |
| B. Hendrix | EB3 | 3173 | 482 7043 |
| W. Stagg | EB3 | 2497 | 481 3086 |
| S. Feinberg | GAC | 516-575-1115 | |
| H. Graber | GAC | 516-575-1115 | |
| J. Kerekes | NR | 213-922-4922 | |
| R. Thomas | NR | 213-922-4921 | |
| H. Horii | NR | 213-922-3441 | |
| C. Perkins | NR | 213-922-2238 | |
| C. Keenan | GAC | 516-575-1240 | |
| <u>Instrumentation</u> | | | |
| E. Tiedt | EB8 | 3073 | 488 2679 |
| R. Krimsier | GAC | 516-575-1661 | |
| D. O'Brien | EB8 | 3071 | 946 3570 |
| R. Wies | GAC | 516-575-9629 | |
| R. Bleck | NR | 213-922-1135 | |
| F. Rotramel | EB8 | 3073 | 644 7423 |

TABLE A-I.- MISSION EVALUATION TEAM - Continued

| <u>Name</u> | <u>Office code</u> | <u>Office phone</u> | <u>Home phone</u> |
|--|------------------------|-------------------------|-------------------|
| <u>Control and Displays</u> | | | |
| A. Olsen | EB3 | 3171 | 334-3270 |
| A. Campos | EB3 | 2497 | 334 1395 |
| J. Alexander | EB8 | 3466 | 488 3650 |
| A. Farkas | EB8 | 2848 | 472 2862 |
| H. Horii | NR | 213-922-3441 | |
| R. Lavey | NR | 213-922-4912 | |
| J. Dannenhoffer | GAC | 516-575-1117 | |
| <u>Guidance and Control</u> | | | |
| C. Finch, Analysis Manager | EG7 | 3991 | 944 6133 |
| R. Wilson | EG8 | 4535 | 488 4139 |
| G. Silver | MIT | 4807 | |
| G. Wachholz | Delco | 4395 | |
| D. Rue | TRW | 9-333-3133 x2651 | 333 2583 |
| A. Sohler | NR | 213-922-3232 | |
| D. Anderson | GAC | 516-575-1535 | |
| <u>SCS</u> | | | |
| O. Littleton | EG8 | 4535 | 944 3244 |
| <u>Guidance and Navigation</u> | | | |
| M. Holley | EG14 | 2391 | 877 3355 |
| S. Snipes | EG8 | 4535 | 444 6618 |
| R. Parker | EG8 | 4535 | 333 2253 |
| <u>Abort Guidance System</u> | | | |
| P. Kurten | EG8 | 4535 | 334 1961 |
| <u>Flight Crew Support</u> (Spacecraft Stowage and Photo Equipment) | | | |
| H. Kuehncl, Analysis Manager | CD4 | 3709 | 474 3358 |
| C. Perner | CD12 | 4171 | 482 7079 |
| G. Franklin | CD12 | 4171 | 334 2853 |
| K. E. Shaw, Jr. | NR | 372-2151 | |
| <u>CSM & LM Experiments</u> | | | |
| R. Lanier | FC8 | 2468 | 534 6246 |
| L. Leopold | EE3 | 2128 | 649 8015 |

TABLE A-I.- MISSION EVALUATION TEAM - Continued

| <u>Name</u> | <u>Office code</u> | <u>Office phone</u> | <u>Home phone</u> |
|----------------------------------|------------------------|-------------------------|-------------------|
| <u>Lunar Roving Vehicle</u> | | | |
| R. Battey, Analysis Manager | PD | 4811 | 333 2921 |
| D. Pendley | PG | 4358 | 258-5622 |
| <u>SIM Bay Experiments</u> | | | |
| R. L. Giesecke, Analysis Manager | ED | 3811 | 585 5489 |
| G. Pels | ED | 3811 | 333 2701 |
| R. Fenner | ED | 3811 | 481 2164 |
| B. Mollberg | EB8 | 2846 | 332 3626 |
| E. Walters | EE6 | 5561 | 474 5074 |
| L. McFadin | EB8 | 2846 | 488 3867 |
| R. T. Walter | EB8 | 3466 | 334 2754 |

Support personnel not assigned to Team:

North American Rockwell

| | |
|---|--------------|
| Mission/Trajectory - B. C. Johnson (Mgr.) | 213-922-4223 |
| Performance/Procedure - J. Potts | 213-922-1621 |
| Consumables/Power - R. Schaefer | 213-922-4974 |
| Experiments - D. Patterson | 213-922-1956 |
| Reliability - J. Stungis | 213-922-5354 |
| Systems Integration - E. E. Dale | 213-922-4425 |
| Integrated C/O Proc. - P. Hitz | 213-922-3639 |
| F. Hirahara | 213-922-2210 |
| Room Captain - E. Jiblits | 213-922-3777 |

The North American Rockwell point of contact for prelaunch support during normal and off-duty hours is F. M. Patterson (office phone 333-2030, home phone 333-3572), or the Mission Support Room at Downey. Contact of North American Rockwell personnel and command and service module vendor personnel if F. Patterson is not available and the Mission Support Room at Downey is not in operation is limited to the following personnel.

| | | |
|------------|--------------|---------------|
| G. Jeffs | 213-922-2415 | (213)862 7238 |
| G. Merrick | 213-922-2951 | (213)379 4852 |
| E. Smith | 213-922-3425 | (213)397 7048 |
| B. Boykin | 213-922-3501 | (714)993 0493 |

TABLE A-I.- MISSION EVALUATION TEAM - Concluded

Name

| <u>Grunman Corporation</u> | <u>Office Phone</u> | <u>Home Phone</u> |
|--|---------------------|-------------------|
| Mass Properties - Fred Hyatt | 516-575-1475 | |
| Materials - George Young | 516-575-7700 | |
| George Hendry | 516-575-7782 | |
| Mission Analysis and simulation - Rudy Schindwolf | 516-575-2704 | |
| Reliability - Don Smith | 516-575-2011 | |
| Mission Support - Ray Pratt | 516-575-1361 | |
| Joe Pruden | 516-575-9933 | |
| Vehicle Design - Bud Phillips | 516-575-6183 | |
| and Integration - Phil Thorjusen | 516-575-2410 | |

Comments

The GAC Houston point of contact is R. Monscko, x4667; therefore, he should be consulted during normal working hours if prelaunch support is required.

The Bethpage Mission Support Room (MSR-B) is always manned during normal working hours. If R. Monscko is unavailable, then the following personnel should be contacted in the MSR-B at x9933.

R. Pratt
J. Pruden
W. Parker

During off nominal hours, when the MSR-B is not manned, contact is limited to the following personnel:

| | |
|--------------|--------------|
| W. Bischoff | 516-423-2974 |
| F. Elliot | 516-427-6399 |
| B. Gaylo | 516-921-7245 |
| J. Strakosch | 516-261-2985 |
| J. Marino | 516-261-1570 |

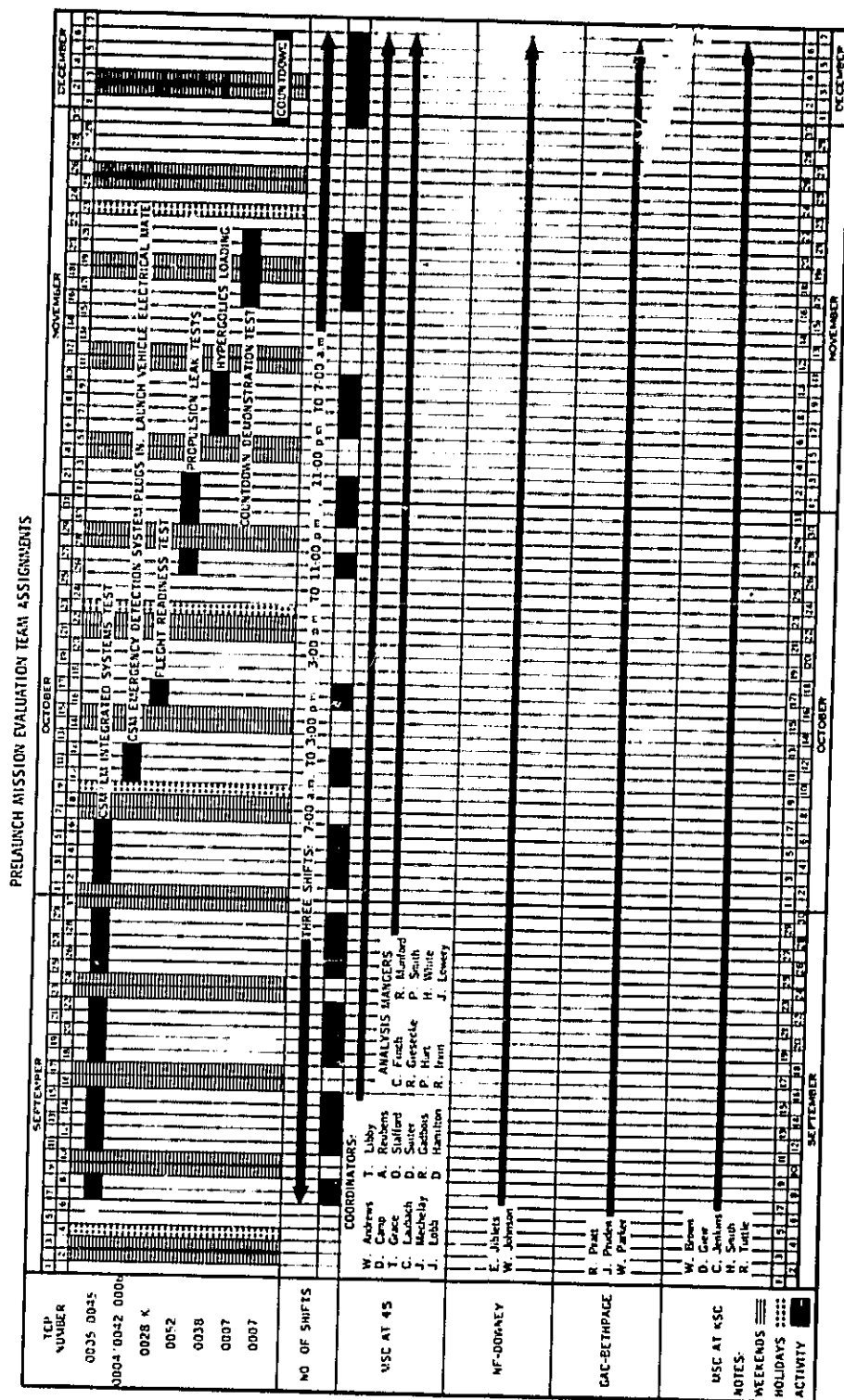


Figure A-1.- Prelaunch mission evaluation team assignments.

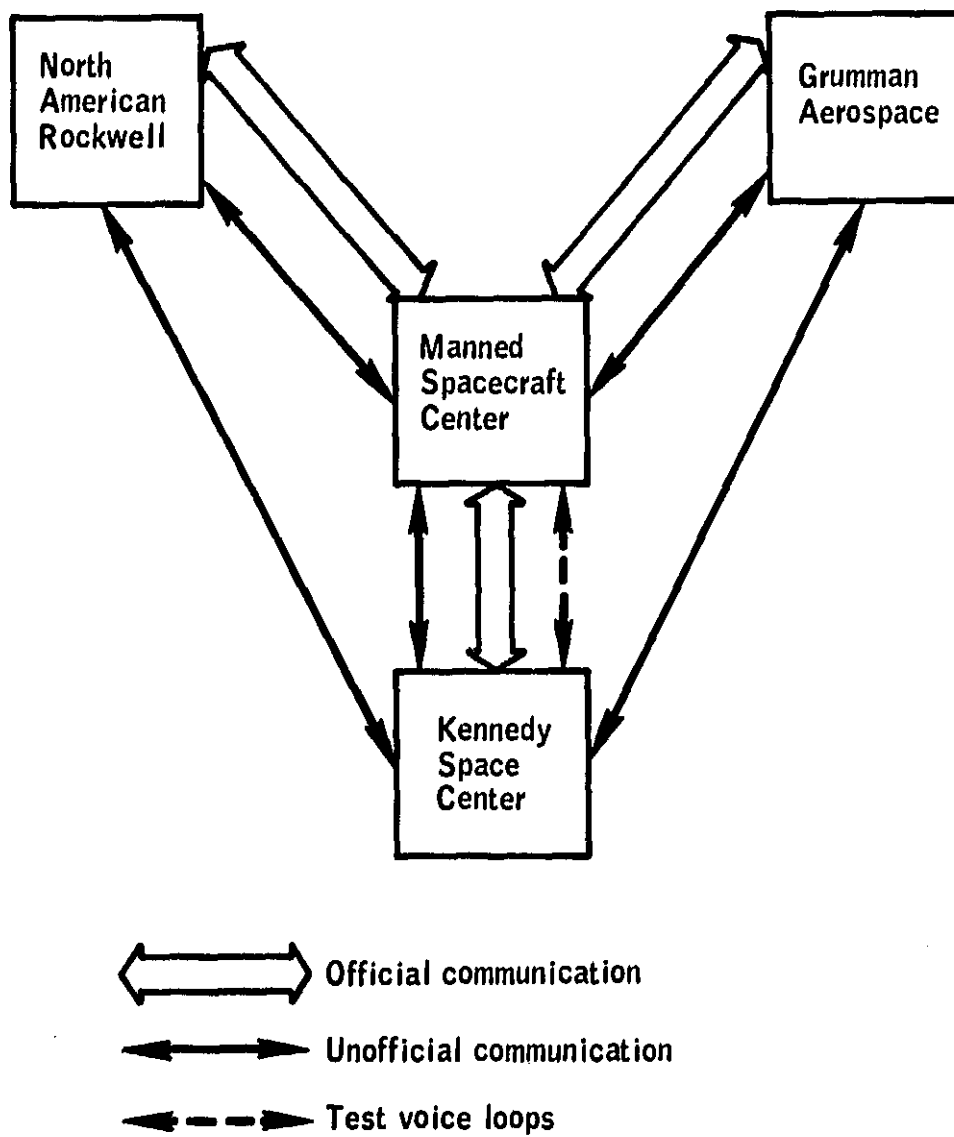


Figure A-2.- Voice links.

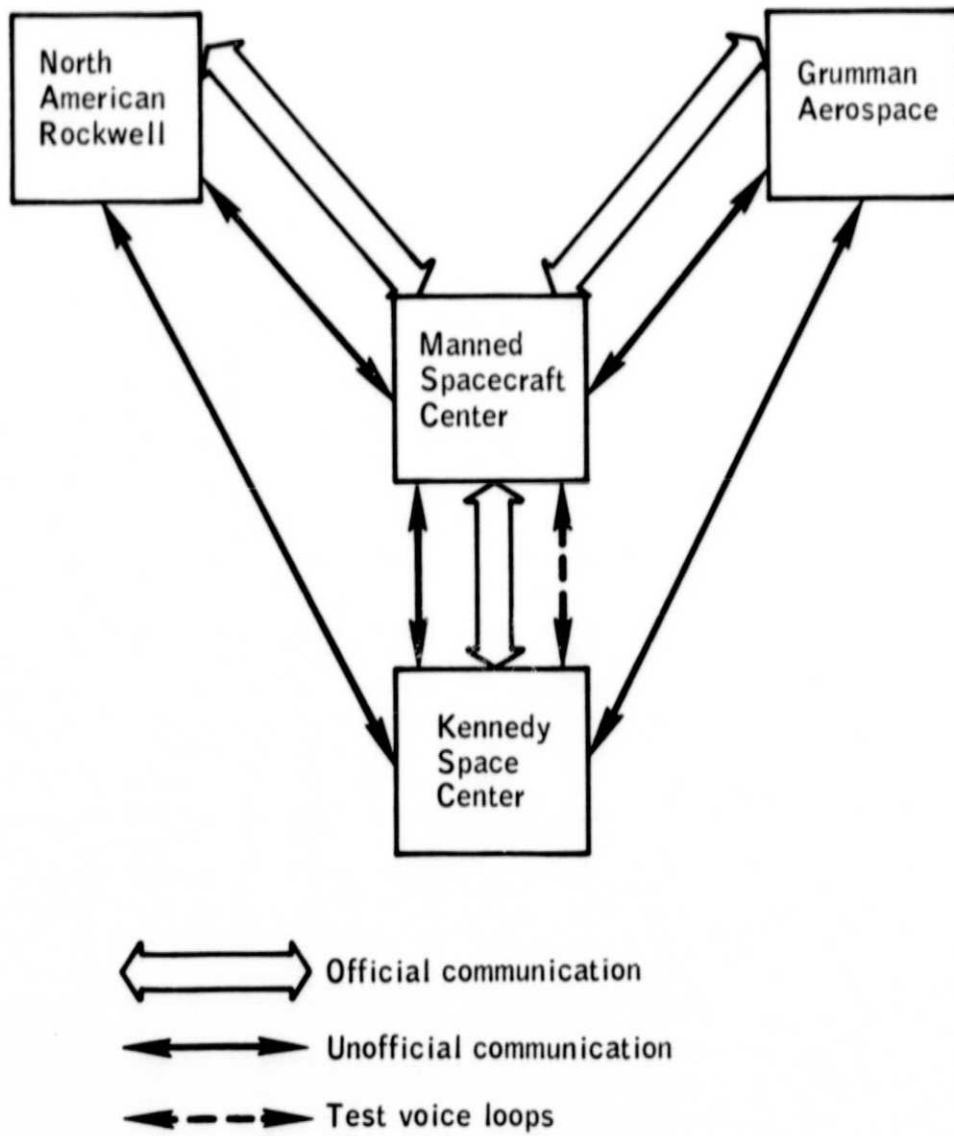


Figure A-2.- Voice links.

Figure A-3.- KSC request form.

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| MSC RESPONSE | | | |
|----------------------|-----------------------|----------------|--|
| CONTROL NUMBER | RESPONSE ORG. | APPROVAL | |
| | | M.E. MGR. | |
| | | TIME | |
| | | TEAM LDR. | |
| | | TIME | |
| | | CONT. SR. REP. | |
| | | TIME | |
| RESPONDER | | | |
| CHIEF ENGINEER, NASA | CHIEF ENGINEER, CONT. | RASPO | |
| TIME | TIME | TIME | |

Figure A-6.- MSC response form.

PART B - PLAN FOR CONTINUOUS MISSION SUPPORT OF APOLLO 17
BY THE MSC MISSION EVALUATION TEAM

SCOPE

During the mission, the NASA and contractor engineering and system specialists on the third floor of building 45 will provide continuous (24-hour) real-time support to the Spacecraft Analysis (SPAN) Room in building 30, and subsequently, to the Mission Operations Control Room (MOCR). Operations will commence at T minus 9 hours in the countdown.

RESPONSIBILITIES

The MSC Mission Evaluation Team will be responsible for responding to all queries made through the SPAN system and providing resolution of inflight problems. Further, this group is responsible for the evaluation and analysis of all flight data, the resolutions of all problems, and assisting in preparation of all postflight reports which are the responsibility of the building 45 support teams.

ORGANIZATION

The technical support to be provided by NASA and contractor personnel in building 45 has been integrated and grouped into several teams supervised by Analysis Managers assigned from MSC. Table B-I contains a listing of the teams, Analysis Managers, and supporting personnel. The Mission Evaluation Team organization is defined as follows.

EVALUATION TEAM MEMBER DUTIES

Evaluation Team Manager

The Evaluation Team Manager is responsible to the Apollo Program Manager for the overall planning, direction, and coordination of all mission support activities in building 45. The Team Manager is also responsible for the postflight evaluation activities. In addition, he is the single point of contact between the Mission Evaluation Team and the SPAN Room.

Deputy Manager

The Deputy Manager assists the Team Manager, and in his absence, assumes all the Team Manager's duties and responsibilities.

Shift Manager

Each Shift Manager is responsible to the Team Manager for the direction of the Mission Evaluation Team during the specific shift to which he is assigned.

Assistant Manager

The Assistant Manager for each shift assists the Shift Manager in carrying out his responsibilities.

Data Manager

The Data Manager for each shift is responsible to the Team Manager for all data processing, handling, and distribution of hard-copy data supplied to the system specialists.

Contractor Senior Representative (NR/GAC/Bendix)

The Contractor Senior Representatives are responsible to the Team Manager for the effective utilization of all contractor resources.

Contractor Data Coordinator (NR/GAC)

The Contractor Data Coordinators are responsible to the applicable Contractor Senior Representative and Team Manager for the coordination of data exchange with the contractor facility.

Engineering and Development Directorate Senior Representative

The senior representatives of the MSC Engineering and Development Directorate are responsible to the Team Manager for the effective utilization of the resources of their directorate.

Analysis Managers

The Analysis Managers are responsible to the Team Manager for directing and coordinating the mission evaluation activities of their respective teams.

BUILDING 45 INTERFACES

The Mission Evaluation Management Team (table B-II) will interface with the SPAN Management Team (table B-III) and with the Contractor Team in the Mission Support Rooms at the Grumman Aerospace Corporation (Bethpage, New York) and at the North American Rockwell Corporation (Downey, California). The primary points of contact between building 45 and the SPAN Room are the Evaluation Team Manager and the SPAN Operations Manager, respectively. The SPAN/Mission Evaluation Request forms (figs. B-1 through B-5) shall be the official coordinating documents for action requests and responses between building 45 and Spacecraft Analysis Room mission monitoring personnel. Exchange of data between the building 45 activity and a contractor's facility is the responsibility of the appropriate Contractor Data Coordinator.

DATA

General

The data available to the systems analysis personnel operating in the Mission Evaluation Room (fig. B-6) are essentially those which are available to the flight control organization in the Mission Control Center. Typically, these data include the telemetry and voice information received by the Mission Control Center from the Manned Space Flight Network and Goddard Space Flight Center. The GOSS-conference loop and other voice channels are also linked to building 45. Tables B-IV and B-V summarize by measurement the telemetry data available to the Mission Evaluation Team, by telegraph, by television, and by near-real-time and post-mission reduction.

Television Data

Eleven television channels, four selectable and seven fixed, are available for viewing real-time data formats on 17 monitors located in the Mission Evaluation Room and support rooms in building 45. The Data Manager will select, in coordination with the Team Manager and Senior Engineering and Development Representative, the data formats on the four selectable channels and those switched to each video monitor.

The television channels referred to as fixed channels are reserved for constant display of the following systems:

- a. Guidance and navigation
- b. Electrical power and batteries
- c. Propulsion
- d. Environmental control
- e. Thermal control/scientific instrument module experiments
- f. Communications.

These channels are slaved to and controlled by the Mission Control Center and will not be used for call-up of special data. During periods of LM inactivity, the fixed LM channels are switched to CSM formats. During the period of scientific instrument module experiments operation, the thermal control television channel (line) is shared with the scientific instrument module experiments personnel.

Polaroid camera facilities will be available when hard copy of data formats are needed quickly. Error codes used on the data formats are shown in table B-VI.

Telegraphic Data

The telegraph summaries are tabular form printouts (summary message enable keyboard rebroadcasts) and will be available throughout the mission. Preliminary copies of the various formats have been distributed, and cardboard overlays will be available prior to the mission for reference by the various system personnel assigned to the Mission Evaluation Room. The data will be sorted and delivered to the appropriate system groups (table B-VII). Prior to the mission, each Analysis Manager should inform the Data Manager of any changes in his requirements for summary message delivery. Essentially, the printed data will be delivered within minutes of its reception from the Manned Space Flight Network.

Recorded Data

The primary source of recorded data for near real-time mission support and postflight evaluation will be THRIFT (System Telemetry History Report in Formatted Tabulations). THRIFT will be printed out every 4 hours in building 30 and will be available for review in the Data Library

(room 345, bldg. 45). System data reduced from range tapes will be available after the mission as required to support the evaluation of specific anomalies. Standard tab groups are defined in tables B-IV and B-V, updates for which will be issued 30 days before the mission.

Apollo lunar surface experiments package (ALSEP) data in the form of high-speed printer tabulations will be delivered directly from building 30 to the Mission Evaluation Team by messenger. Special requests for other experiments data will be submitted to the Data Manager.

Documentation

The Data Library has on file all available documentation for Apollo 17. Personnel are on duty continuously during the mission and during normal working hours for the evaluation period.

MISSION EVALUATION REVIEW REQUIREMENTS

The following reviews are conducted for each mission:

- a. Mission Evaluation Team Manager premission briefing for Analysis Managers
- b. Flight crew technical debriefing report review by Analysis Managers
- c. Flight crew systems debriefing to technical specialists
- d. Mission Evaluation Team Manager summary review with Analysis Managers
- e. Apollo Program Manager review of mission report.

SECURITY REQUIREMENTS

Access to the third floor of building 45 will be restricted during the Apollo 17 mission. All personnel requiring access on a continuing basis will be badged. The badging identification will be as follows:

- a. Mission Control Center green badges with names printed thereon authorize access to the third floor of building 45 and room 306C.
- b. Building 45 third floor access badges (black on white) with black numeral 17 authorize access to the third floor of building 45.

The third floor of building 45 will be controlled by a security guard stationed at the elevators. The third-floor stairway doors will be locked during the mission. At the request of the Analysis Managers, the Team Manager or his designee will arrange with the guard for access of technical specialists as the need for their support arises. The Analysis Managers are responsible to the Mission Evaluation Team Manager to insure that the total number of personnel is held to a minimum to avoid an overcrowded and noisy condition.

MISSION EVALUATION ROOM FACILITY ASSIGNMENTS

Specific seating assignments for the Mission Evaluation Team are defined in figure B-6. Room assignments and telephone numbers are defined in figure B-7.

Mission Report Requirements and Responsibilities

The Apollo 17 mission reporting requirements are defined in Apollo Program Directive no. 19C.

A summary of the reports to be generated by the Mission Evaluation Team is as follows:

Building 45 status reports.- A status report keyed to significant flight events and approximately every 2 hours during the mission.

Analysis of propulsion system major firings.- A verbal report to the Mission Evaluation Team Manager and input to the 2-hour status report. Propulsion analysis personnel will be provided with real-time or near-real-time high-bit-rate data for assessment of propulsion system firings. Special procedures are also being implemented for the timely assessment of these data.

Daily Mission Reports.- A description of the events of the preceding 24-hour period, including mission progress, accomplishments, systems performance, failures, and anomalies.

Five-Day Mission Report.- An abbreviated "quick look" description of the mission, including primary mission and test objectives accomplished, as well as significant failures and anomalies.

Thirty-Day Failure and Anomalies Listing Report.- A complete report describing all significant failures and anomalies, including time of occurrence, mode or cause, and results of failure analysis; and, in addition, the failure/anomaly criticality, subsequent mission impact/constraint, testing required to support corrective action, and final resolution.

Final Mission Report. - A complete and detailed report covering all mission aspects from launch through recovery. (Publication date is 90 days after end of mission.) Significant topics covered are:

- a. Spacecraft configuration, trajectory, and sequential events
- b. Spacecraft, systems, and equipment performance
- c. Assessment of mission objectives
- d. Recovery operation
- e. Failure and anomaly analysis/resolution
- f. Scientific experiments
- g. Crew's report of the mission.

MISSION REPORT SCHEDULES AND PROCEDURES

The schedule of reporting for the Apollo 17 mission is shown in figure B-8. This schedule indicates when each portion of the report is to be submitted by the Analysis Managers to the Test Division (PT2) as well as the anticipated publication date of each report. The flow of the individual report inputs within the Test Division is shown in figure B-9. As sections are drafted by the Analysis Managers, each section (or subsection) will be delivered to the Branch Secretary, PT2, who will log the submission and reproduce a record copy for incorporation into a loose-leaf notebook. The notebook will be available at all times to interested parties.

TABLE B-I.- APOLLO 17 ANALYSIS AND TEAM MANAGERS IN BUILDING 45

Engineering and Development Directorate

R. Burt, E and D Senior Representative
L. Chauvin

Telecommunications

R. Irvin, Analysis Manager
A. D. Travis
E. Lattier

Crew Systems

P. F. Hurt, Analysis Manager
F. A. Samonski
D. Hughes
W. Guy

Electronic Systems

R. Munford, Analysis Manager
A. Olsen
A. Campos
J. Alexander

Propulsion and Power

H. White/R. Ferguson, Analysis Manager
C. Gibson
R. Taeuber
W. Dusenbury

Guidance and Control

C. Finch, Analysis Manager
P. Kurten
O. Littleton
R. Parker
S. Snipes

Structures and Mechanics

P. D. Smith, Analysis Manager

Thermal Control

L. Palmer, Analysis Manager
J. T. Taylor
R. Harris
R. Brown
J. Janney

TABLE B-I.- APOLLO 17 ANALYSIS AND TEAM MANAGERS IN BUILDING 45 -
Concluded

Apollo Lunar Surface Experiments

J. Lowery, Analysis Manager

Flight Crew Support/Spacecraft Stowage and Photo Equipment

H. Kuehnelt, Analysis Manager

C. Perner

G. Franklin

Trajectory

E. D. Murrah, Analysis Manager

SIM Bay Experiments

R. Giesecke, Analysis Manager

R. Fenner

Lunar Roving Vehicle

R. Battey, Analysis Manager

D. Pendley, Project Engineer

Extravehicular Activities

D. Schultz

Inflight Demonstrations

F. Laurentz

Science and Photography

R. Baldwin

J. Bates

CSM and LM Experiments

R. Lanier

W. Panter

L. Leopold

TABLE B-II.- APOLLO 17 MISSION EVALUATION MANAGEMENT TEAM (BUILDING 45)

| Team Manager, D. D. Arabian Deputy Team Manager, R. Colonna | | | |
|--|-----------------------|------------------|--------------|
| Position | Shift 1 | Shift 2 | Shift 3 |
| Shift Manager | J. Mechelay | R. Clickner | R. Gadbois |
| Assistant Manager | A. Reubens | T. Libby | D. Suiter |
| Data Manager | G. Foster | C. Walsh | T. Grace |
| NR Senior Representative | B. Boykin/D. Llorente | F. Patterson | M. Silver |
| Bendix Senior Representative | L. Lewis | W. Tosh | H. Reinhold |
| GAC Senior Representative | J. Marino | Marino/Strakosch | J. Strakosch |
| NR Data Coordinator | W. Fitzpatrick | | |
| GAC Data Coordinator | L. Gran | Gran/Moncsko | R. Moncsko |
| E&D Senior Representative | L. Chauvin | Chauvin/Burt | R. Burt |
| R&QA Senior Representative | C. Rice | J. Johansen | E. Fields |

TABLE B-III.- APOLLO 17 SPACECRAFT ANALYSIS MANAGEMENT TEAM (BUILDING 30)

| Team Managers, S. H. Sompkinson and R. Kohrs | | | |
|--|--------------------------|-------------------------|-----------------------------------|
| Position | Shift 1 | Shift 2 | Shift 3 |
| SPAN Operations Managers | S. Sompkinson | R. Kohrs | R. Battey |
| SPAN Assistant Manager Operations | J. Lowe | D. Nebrig | G. Coultas |
| Mission Staff Engineer | D. Segna | S. Blackmer | D. Griffiths/ N. Stewart |
| SPAN Log Manager | H. Statz | J. Wise | F. Hopson |
| Administrative Support | R. Bailey/ G. Poinier | Bailey/Poinier/ Rayl | J. Rayl |
| SPAN Documentation | H. Tash | Tash/Davis | H. Davis |
| NR Management Representative | G. Jeffs/ G. Merrick | E. Smith | M. Vucelic |
| GAC Management Representative | W. Bischoff | F. Elliott | J. Marino |
| MIT Management Representative | P. Felleman | G. Silver | R. Larsen |
| MSFC-LRV Senior Representative | M. Harrington | J. Sisson | F. Van Rensselaer/ D. Townsend |
| Orbital Science Team Leader | R. Baldwin | Baldwin/Eichelman | W. Eichelman |
| Surface Science Team Leader | J. Lovell | Lovell/Sevier | J. Sevier |

TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrill tab no. |
|-------------|-----------------------|------|---------------|----------------|------------------------------|---|----|----|----|-----|--------------------|---------------------------|------|------------------------------|------------------------|----------------|
| Number | Title | Unit | Approx. range | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | |
| | | | Low | | | | | | | | | | High | | | |
| GC0541T | MESSA TEMP 1 | °F | 20 | 200 | 1050005 | 1 | .1 | .1 | 1 | | | 20A | | LP-1 | 1001 | 4101 |
| GC0542T | MESSA TEMP 2 | °F | 20 | 200 | 1048005 | 1 | .1 | .1 | 1 | | | 20A | | LP-1 | 1001 | 4101 |
| GC0543T | MESSA TEMP 3 | °F | 20 | 200 | 1002126 | 1 | .1 | .1 | 1 | | | 20A | | LP-1 | | 4101 |
| GC0071V | AC BUS VOLT | VRMS | 0 | 125 | 1028069 | 1 | . | .2 | 1 | | 70 | 21C | | LP-4 | 1001 | 4002 |
| GC0155F | AC BUS FREQ | HZ | 300 | 420 | 1041069 | 1 | .2 | .2 | 1 | | 70 | 21C | | LP-4 | 1001 | 4002 |
| GC0201V | BAT 1 VOLT | VDC | 20 | 40 | 1014101 | 1 | .2 | .5 | 1 | | 70 | 21A | | LP-2 | 1001 | 4002 |
| GC0202V | BAT 2 VOLT | VDC | 20 | 40 | 1011101 | 1 | .2 | .5 | 1 | | 70 | 21A | | LP-2 | 1001 | 4002 |
| GC0203V | BAT 3 VOLT | VDC | 0 | 40 | 1021101 | 1 | .2 | .5 | 1 | | 70 | 21A | | LP-2 | 1001 | 4002 |
| GC0204V | BAT 4 VOLT | VDC | 0 | 40 | 1015101 | 1 | .2 | .5 | 1 | | 70 | 21B | | LP-2 | 1001 | 4002 |
| GC0205V | BAT 5 VOLT | VDC | 0 | 40 | 1010337 | 1 | .2 | .5 | 1 | | 70 | 21B | | LP-3 | 1001 | 4002 |
| GC0206V | BAT 6 VOLT | VDC | 0 | 40 | 1010037 | 1 | .2 | .5 | 1 | | 70 | 21B | | LP-3 | 1001 | 4002 |
| GC0207V | LIR BAT VOLT | VDC | 0 | 40 | 1001037 | 1 | .2 | .5 | 1 | | 70 | 21B | | LP-3 | 1001 | 4002 |
| GC0301V | CDR BUS VOLT | VDC | 0 | 40 | 1033069 | 1 | 1 | 1 | 1 | | 70 | 21B | | LP-4 | 1001 | 4003 |
| GC0302V | SE BUS VOLT | VDC | 0 | 40 | 1035069 | 1 | | 1 | | | 70 | 21C | | LP-4 | 1001 | 4003 |
| GC1201C | BAT 1 CUR | AMP | 0 | 60 | 1024101 | 1 | 1 | 1 | 1 | | 70 | 21A | | LP-2 | 1001 | 4004 |
| GC1202C | BAT 2 CUR | AMP | 0 | 60 | 1032069 | 1 | 1 | 1 | 1 | | 70 | 21A | | LP-2 | 1001 | 4004 |
| GC1203C | BAT 3 CUR | AMP | 0 | 60 | 1017069 | 1 | 1 | 1 | 1 | | 70 | 21A | | LP-2 | 1001 | 4004 |
| GC1204C | BAT 4 CUR | AMP | 0 | 60 | 1018069 | 1 | 1 | 1 | 1 | | 70 | 21A | | LP-2 | 1001 | 4004 |
| GC1205C | BAT 5 CUR | AMP | 0 | 120 | 1013101 | 1 | 1 | 1 | 1 | | 70 | 21B | | LP-3 | 1001 | 4004 |
| GC1206C | BAT 6 CUR | AMP | 0 | 120 | 1021069 | 1 | 1 | 1 | 1 | | 70 | 21B | | LP-3 | 1001 | 4004 |
| GC1207C | LIR BAT CUR | AMP | 0 | 60 | 1022037 | 1 | 1 | 1 | 1 | | 70 | 21B | | LP-3 | 1001 | 4004 |
| GC4361X | BAT 1 HI TAP | OFF | ON | | 1035098H | | | | | | | 41 | 50 | IE-1 | | |
| GC4362X | BAT 1 LOW TAP | OFF | ON | | 1005098C | | | | | | | 41 | 50 | IE-1 | | |
| GC4363X | BAT 2 HI TAP | OFF | ON | | 1035098F | | | | | | | 41 | 50 | IE-1 | 1001 | 4009 |
| GC4364X | BAT 2 LIR BAT LMP BUS | OFF | ON | | 1035098E | | | | | | | 41 | 50 | IE-1 | 1001 | 4009 |
| GC4365X | BAT 3 HI TAP | OFF | ON | | 1035098D | | | | | | | 41 | 50 | IE-1 | 1001 | 4009 |
| GC4366X | BAT 3 LIR BAT CDR BUS | OFF | ON | | 1035098C | | | | | | | 41 | 50 | IE-1 | | |

Changed November 1972

TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. |
|-------------|------------------|----------|---------------|----------------|------------------------------|----|----|----|----|--|--------------------|---------------------------|----|------------------------------|------------------------|----------------|
| Number | Title | Unit | Approx. range | | 1 | 4 | 5 | 10 | 20 | | | STD | SP | | | |
| GC4367X | BAT 4 HI TAP | | OFF ON | 1035098B | | | | | | | | 41 | 50 | LE-1 | | |
| GC4368X | BAT 4 LOW TAP | | OFF ON | 1035098A | | | | | | | | 41 | 50 | LE-1 | | |
| GC4369X | BAT 5 B/U CDR | | OFF ON | 1035098H | | | | | | | | 41 | 50 | LE-1 | | |
| GC4370X | BAT 6 NORM CDR | | OFF ON | 1035098G | | | | | | | | 41 | 50 | LE-1 | | |
| GC4371X | BAT 5 NORM SE | | OFF ON | 1035098F | | | | | | | | 41 | 50 | LE-1 | | |
| GC4372X | BAT 6 B/U SE | | OFF ON | 1035098E | | | | | | | | 41 | 50 | LE-1 | | |
| GC9961U | BAT 1 MAL | | ABS FRS | 1034100H | | | | | | | | 41 | 50 | LE-1 | 1001 | 4009 |
| GC9962U | BAT 2/3/4 MAL | | ABS FRS | 1034100G | | | | | | | | 41 | 50 | LE-1 | 1001 | 4009 |
| GC9963U | BAT 3/4/5 MAL | | ABS FRS | 1034100F | | | | | | | | 41 | 50 | LE-1 | 1001 | 4009 |
| GC9964U | BAT 4 MAL | | ABS FRS | 1034100E | | | | | | | | 41 | 50 | LE-1 | 1001 | 4009 |
| GC9965U | BAT 5 MAL | | ABS FRS | 1034100D | | | | | | | | 41 | 50 | LE-1 | 1001 | 4009 |
| GC9966U | BAT 6 MAL | | ABS FRS | 1034100C | | | | | | | | 41 | 50 | LE-1 | 1001 | 4009 |
| GF0500P | DES H2 TK2 PRESS | PSIA | 0 60 | 1047069 | 1 | .2 | .2 | 1 | | | 70 | 22D | | LP-5 | 1001 | 4113 |
| GF0504P | DES O2 TK2 PRESS | PSIA | 0 3000 | 1047037 | 1 | | | 1 | | | 70 | 22D | | LP-5 | 1001 | |
| GF1083X | SUIT PAR 1 MAL | NO | YES | 1007098H | | | | | | | | 42 | 50 | LE-1 | 1001 | 4101 |
| GF1084X | SUIT PAR 2 MAL | NO | YES | 1007098G | | | | | | | | 42 | 50 | LE-1 | 1001 | 4101 |
| GF1201X | CDN SUIT DISC | FLOW | DISC | 1004098H | | | | | | | | 42 | 50 | LE-1 | 1001 | 4100 |
| GF1202X | LPF SUIT DISC | FLOW | DISC | 1004098G | | | | | | | | 42 | 50 | LE-1 | 1001 | 4100 |
| GF1211X | SUIT RLF CLSD | NOT CLSD | CLSD | 1007098F | | | | | | | | 42 | 50 | LE-1 | 1051 | |
| GF1212X | SUIT RLF OPEN | NOT OPEN | OPEN | 1007098E | | | | | | | | 42 | 50 | LE-1 | 1051 | |
| GF1221X | SUIT DIV EGRES | OPEN CAB | EXH | 1007098D | | | | | | | | 42 | 50 | LE-1 | 1001 | 4100 |
| GF1231X | CABIN RST CLSD | NOT CLSD | CLSD | 1005098H | | | | | | | | 42 | 50 | LE-1 | 1051 | |
| GF1232X | CABIN RST OPEN | NOT OPEN | OPEN | 1005098G | | | | | | | | 42 | 50 | LE-1 | | |
| GF1241X | SEC CO2 SEL | FRI | SEC | 1007098C | | | | | | | | 42 | 50 | LE-1 | 1001 | 4100 |
| GF1281T | SUIT TEMP | °F | 20 120 | 1045005 | 1 | .1 | .1 | .1 | 1 | | 70 | 22A | | LP-5 | 1001 | 4100 |
| GF1301P | SUIT PRESS | PSIA | 0 10 | 1034063 | 1 | .1 | .1 | .1 | 1 | | 70 | 22A | | LP-5 | 1001 | 4100 |
| GF1521P | CO2 PART PRESS | PSI | 0 30 | 1005037 | 1 | .1 | .1 | .1 | 1 | | 70 | 22A | | LP-5 | 1001 | 4100 |
| GF1611T | CABIN TEMP | °F | 20 120 | 1034005 | 1 | .1 | .1 | .1 | 1 | | 70 | 22A | | LP-5 | 1001 | 4101 |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| TABLE 2. ECHM MODULE TELEMETRY DATA SUMMARY - Continued | | | | | | | | | | | | | | | | |
|---|-------------|------|---------------|------|----------------|------------------------------|---|---|---|---|--------------------|---------------------------|----|------------------------------|------------------------|---------------|
| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Trans tab no. |
| Number | Title | Unit | Approx. range | | | 1 | 2 | 3 | 4 | 5 | | STD | SP | | | |
| | | | Low | High | | | | | | | | | | | | |
| 000000 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000001 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000002 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000003 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000004 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000005 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000006 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000007 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000008 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000009 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000010 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000011 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000012 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000013 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000014 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000015 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000016 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000017 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000018 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000019 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000020 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000021 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000022 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000023 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000024 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000025 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000026 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000027 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000028 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000029 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000030 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000031 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000032 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000033 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000034 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000035 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000036 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000037 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000038 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000039 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000040 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000041 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000042 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000043 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000044 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000045 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000046 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000047 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000048 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000049 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000050 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000051 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000052 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000053 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000054 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000055 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000056 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000057 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000058 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000059 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000060 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000061 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000062 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000063 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000064 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000065 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000066 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000067 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000068 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000069 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000070 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000071 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000072 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000073 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000074 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000075 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000076 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000077 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000078 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000079 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000080 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000081 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000082 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000083 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000084 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000085 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000086 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000087 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000088 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000089 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000090 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000091 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000092 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000093 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000094 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000095 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000096 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000097 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000098 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000099 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000100 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| 000101 | TEMPERATURE | °F | 0 | 100 | 1 | 1 | 1 | 1 | | | | | | | | |

TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | Unit | Approx. range | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft tab no. |
|-------------|-------------------|------|---------------|------|----------------|------------------------------|----|----|----|----|----|--------------------|---------------------------|-----------------|------------------------------|------------------------|---------------|
| Number | Title | | Low | High | | 1 | 4 | 5 | 10 | 30 | | | STD | SP | | | |
| GG1525X | LGC QER | | OFF | ON | 1008098 | | | | | | | | 45 | 50 | LE-2 | | 4435 |
| GG2001V | X PIFA OUT IN PH | VRMS | -2.5 | +2.5 | 5101058 | 1 | .2 | .2 | 1 | 50 | | | 31A | LP-18 | | | 4455 |
| GG2021V | Y PIFA OUT IN PH | VRMS | -2.5 | +2.5 | 5101057 | 1 | .2 | .2 | 1 | 10 | | | 31A | LP-18 | | | 4455 |
| GG2041V | Z PIFA OUT IN PH | VRMS | -2.5 | +2.5 | 5101059 | 1 | .2 | .2 | 1 | 10 | | | 31A | LP-18 | | | 4455 |
| GG2107V | IG SVO ERR IN PH | VRMS | -3 | +3 | 1201017 | 10 | 1 | 3 | 5 | 50 | | | 31A | LP-18 | | | 4460 |
| GG2112V | IG RSVR OUT SIN | VRMS | -20 | +20 | 1102099 | 1 | 1 | 1 | 1 | 10 | | | 31B | LP-9 | | | 4460 |
| GG2113V | IG RSVR OUT COS | VRMS | -20 | +20 | 1102067 | 1 | 1 | 1 | 1 | 10 | | | 31B | LO-3 LP-19 | | | 4460 |
| GG2137V | MG SVO ERR IN PH | VRMS | -3 | +3 | 1201019 | 10 | 1 | 3 | 5 | 50 | | | 31A | LO-3 LP-18 | | | 4460 |
| GG2142V | MG RSVR OUT SIN | VRMS | -20 | +20 | 1102034 | 1 | 1 | 1 | 1 | 10 | | | 31B | LO-3 LP-19 | | | 4460 |
| GG2143V | MG RSVR OUT COS | VRMS | -20 | +20 | 1002101 | 1 | 1 | 1 | 1 | 1 | | | 31B | LO-3 LP-19 | | | 4460 |
| GG2167V | OG SVO ERR IN PH | VRMS | -3 | +3 | 1201030 | 10 | 1 | 3 | 5 | 50 | | | 31A | LO-3 LP-18 | | | 4460 |
| GG2172V | OG RSVR OUT SIN | VRMS | -20 | +20 | 1103067 | 1 | 1 | 1 | 1 | 10 | | | 31A | LO-3 LP-19 | | | 4460 |
| GG2173V | OG RSVR OUT COS | VRMS | -20 | +20 | 1017101 | 1 | 1 | 1 | 1 | 1 | | | 31B | LO-3 LP-19 | | | 4460 |
| GG2219V | PITCH CDU DAC OUT | DEGS | -20 | +20 | 1104068 | 4 | 2 | 3 | 5 | 10 | | | 31C | LO-1 LP-20 | | | 4420 |
| GG2249V | YAW CDU DAC OUT | DEGS | -20 | +20 | 1102100 | 4 | 2 | 3 | 5 | 10 | | | 31C | LO-2,1 LP-20 | | | 4420 |
| GG2279V | ROLL CDU DAC OUT | DEGS | -20 | +20 | 1103066 | 4 | 2 | 3 | 5 | 10 | 70 | | 31C | LO-1,2 LP-20 | | | 4420 |
| GG2300T | RIFA TEMP | °F | 120 | 140 | 1032101 | 1 | .1 | 1 | 1 | | 71 | 23A | 29C | LP-9 | 1137 | | 4450 |
| GG3304V | RR SHFT SIN | VRMS | -22 | +22 | 1104065 | 1 | 1 | 1 | 1 | 10 | | | 31C | LP-20 LO-3 | | | 4470 |
| GG3305V | RR SHFT COS | VRMS | -22 | +22 | 1102035 | 1 | 1 | 1 | 1 | 10 | | | 31C | LP-20 LO-3 | | | 4470 |
| GG3324V | RR TRUN SIN | VRMS | -22 | +22 | 1102036 | 1 | 1 | 1 | 1 | 10 | | | 31C | LP-20 LO-3 | | | 4470 |
| GG3325V | RR TRUN COS | VRMS | -22 | +22 | 1103035 | 1 | 1 | 1 | 1 | 10 | | | 31C | LP-20 LO-3 | | | 4470 |
| GG9001X | LGC WARNING | ABS | FRS | | 10030981 | | | | | | | | 45 | 51 | LO-3 LP-7 | | 4435 |
| GG9002X | ISS WARNING | ABS | FRS | | 10030986 | | | | | | | | 45 | 51 | LE-2 | | 4450 |
| GH1204X | OUT LET | NO | YES | | 10370981 | | | | | | | | 44 | 50 | LO-1 LE-2 | | 4316 |
| GH1214X | AUTO ON | NO | YES | | 1020581 | | | | | | | | 44 | 50 | LE-2 | | 4330 |

TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft tab no. |
|-------------|--------------------|------|---------------|----------------|------------------------------|---|---|----|----|-----|--------------------|---------------------------|------|------------------------------|------------------------|---------------|
| Number | Title | Unit | Approx. range | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | |
| | | | Low | | | | | | | | | | High | | | |
| GH1217X | AUTO OFF | | NO | YES | 1037092G | | | | | | | 44 | 50 | LS-2 | 1123 | 4330 |
| GH1230X | APS ARM | | NO | YES | 1047095H | | | | | | | 44 | 50 | LS-2 | 1001 | 4331 |
| GH1240V | X TRANS CMD | VDC | -10 | 10 | 1101065 | 1 | 1 | 1 | 1 | 10 | | 43 | 32A | LP-21 | | 4340 |
| GH1241V | Y TRANS CMD | VDC | -10 | 10 | 1102033 | 1 | 1 | 1 | 1 | 10 | | 43 | 32A | LP-21 | | 4340 |
| GH1242V | Z TRANS CMD | VDC | -10 | 10 | 1103033 | 1 | 1 | 1 | 1 | 10 | | 43 | 32A | LP-21 | | 4340 |
| GH1247V | YAW LC INPUT ERR | VDC | -13 | 13 | 1036101 | 4 | 1 | 1 | 1 | 1 | 71 | | 32A | LO-1 LP-21 | 1123 | 4340 |
| GH1248V | PITCH LC INPUT ERR | VDC | -13 | 13 | 1040101 | 4 | 1 | 1 | 1 | 1 | 71 | | 32A | LO-1 LP-21 | 1123 | 4340 |
| GH1249V | ROLL LC INPUT ERR | VDC | -13 | 13 | 1045101 | 4 | 1 | 1 | 1 | 1 | 71 | | 32A | LO-1 LP-21 | 1123 | 4340 |
| GH1260X | APS ON | | OFF | ON | 5101024H | | | | | | | 44 | 50 | LS-2 | 1001 | 4331 |
| GH1283X | AROHT STAGE | | NO | YES | 5101024G | | | | | | | 44 | 50 | LS-2 | 1001 | 4331 |
| GH1286X | ENG FIR STAGE | | NO | YES | 1037095F | | | | | | | 44 | 50 | LS-2 | 1123 | 4320 |
| GH1301X | DPS ON | | OFF | ON | 1029092G | | | | | | | 44 | 50 | LS-2 | 1125 | 4331 |
| GH1311V | YAW THRUST CMD | PCT | 0 | 15 | 1035005 | | | | | | 71 | | 32B | LO-2 LP-22 | 1123 | 4325 |
| GH1313V | PITCH GDA POS | VRMS | -17 | +17 | 1006101 | 1 | 1 | 1 | 1 | 1 | 71 | | 32B | LO-2 LP-22 | 1001 | 4320 |
| GH1314V | ROLL GDA POS | VRMS | -17 | +17 | 1003101 | 1 | 1 | 1 | 1 | 1 | 71 | | 32B | LO-2 LP-22 | 1001 | 4320 |
| GH1323X | R TRM FALL | | NO | YES | 1029092F | | | | | 1 | | 44 | 50 | LS-2 | 1001 | 4320 |
| GH1330X | R TRM FALL | | NO | YES | 1029092E | | | | | 1 | | 44 | 50 | LS-2 | 1001 | 4320 |
| GH1331V | AUTO THRUST CMD | VDC | 0 | 12 | 1045069 | 1 | 1 | 1 | 1 | 1 | 71 | | 32B | LO-2 LP-22 | 1123 | 4325 |
| GH1348X | DPS ARM | | NO | YES | 1047098 | | | | | 1 | | 44 | 50 | LS-2 | 1123 | 4325 |
| GH1418V | JDS4V OUTPUT | | | | 1201005A | 1 | 1 | 1 | 1 | 10 | | 43 | | LO-1,2 LO-5 LS-3 | | 4345 |
| GH1419V | JDS4D OUTPUT | | OFF | ON | 1201009B | | | | | 10 | | 43 | | LO-1,2 LO-4 LS-3 | | 4345 |
| GH1420V | JDS4F OUTPUT | | OFF | ON | 1201042A | | | | | 10 | | 43 | | LO-1,2 LO-5 LS-3 | | 4345 |
| GH1421V | JDS4B OUTPUT | | OFF | ON | 1201048B | | | | | | | 43 | | LO-1,2 LO-4 LS-3 | | 4345 |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. |
|-------------|----------------|---------|---------------|----------------|------------------------------|----|---|----|----|-----|--------------------|---------------------------|------|------------------------------|------------------------|----------------|
| Number | Title | Unit | Approx. range | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | |
| | | | Low | | | | | | | | | | High | | | |
| GH1422V | JDA3U OUTPUT | | OFF | ON | 1201003C | | | | | 10 | | 43 | | 10-1,2 10-4 12-3 | | 4345 |
| GH1423V | JDB3D OUTPUT | | OFF | ON | 1201003D | | | | | 10 | | 43 | | 10-1,2 10-5 12-3 | | 4345 |
| GH1424V | JDB2A OUTPUT | | OFF | ON | 1201048C | | | | | | | 43 | | 10-1,2 10-5 12-3 | | 4345 |
| GH1425V | JDA3R OUTPUT | | OFF | ON | 1201048D | | | | | | | 43 | | 10-1,2 10-4 12-3 | | 4345 |
| GH1426V | JDB2U OUTPUT | | OFF | ON | 1201003E | | | | | 10 | | 43 | | 10-1,2 10-5 12-3 | | 4345 |
| GH1427V | JDA2D OUTPUT | | OFF | ON | 1201003F | | | | | | | 43 | | 10-1,2 10-4 12-2 | | 4345 |
| GH1428V | JDA2A OUTPUT | | OFF | ON | 1201048E | | | | | | | 43 | | 10-1,2 10-4 12-3 | | 4345 |
| GH1429V | JDB2L OUTPUT | | OFF | ON | 1201048F | | | | | | | 43 | | 10-1,2 10-5 12-2 | | 4345 |
| GH1430V | JDA1U OUTPUT | | OFF | ON | 1201003G | | | | | 10 | | 43 | | 10-1,2 10-4 12-2 | | 4345 |
| GH1431V | JDB1D OUTPUT | | OFF | ON | 1201003H | | | | | 10 | | 43 | | 10-1,2 10-5 12-2 | | 4345 |
| GH1432V | JDA1P OUTPUT | | OFF | ON | 1201048G | | | | | | | 43 | | 10-1,2 10-4 | | 4345 |
| GH1433V | JDB1L OUTPUT | | OFF | ON | 1201048H | | | | | | | 43 | | 10-1,2 12-3 10-5 | | 4345 |
| GH1455V | YAW ATT ERR | DEG | -12 | +12 | 1102063 | 4 | 2 | 3 | 5 | 10 | 71 | 32C | | 10-1 12-23 | 1123 | 4340 |
| GH1456V | PITCH ATT ERR | DEG | -12 | +12 | 1101100 | 4 | 2 | 3 | 5 | 10 | 71 | 32C | | 10-1 12-23 | 1123 | 4340 |
| GH1457V | ROLL ATT ERR | DEG | -12 | +12 | 1102066 | 4 | 2 | 3 | 5 | 10 | 71 | 32C | | 10-1 12-23 | 1123 | 4340 |
| GH1461V | RGA YAW RATE | DEG/SEC | -25 | +25 | 1103034 | 10 | 3 | 5 | 5 | 10 | 71 | 32C | | 10-1,2 10-4,5 12-21 | 1123 | 4340 |
| GH1462V | RGA PITCH RATE | DEG/SEC | -25 | +25 | 1104034 | 10 | 3 | 5 | 5 | 10 | 71 | 32C | | 10-1,2 10-4,5 12-23 | 1123 | 4340 |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft. tab no. |
|-------------|--------------------|---------|---------------|----------------|------------------------------|----|----|----|----|-----|--------------------|---------------------------|------|------------------------------|------------------------|----------------|
| Number | Title | Unit | Approx. range | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | |
| | | | Low | | | | | | | | | | High | | | |
| GH1463V | RGA ROLL RATE | DEG/SEC | -25 | +25 | 1105034 | 10 | 3 | 5 | 5 | 10 | 71 | | 32C | 10-1, 2 10-4, 5 LP-23 | 1123 | 4340 |
| GH1603X | WIDE DRND SEL | NAR | WIDE | | 1047098F | | | | | 1 | | 44 | 50 | 10-1 1E-3 | 1137 | 4316 |
| GH1621X | ACS SEL | RZIS | ACS | | 1029098D | | | | | 1 | | 44 | 50 | 10-1, 4 1E-3 | 1123 | 4322 |
| GH1628X | ROLL FLSD/DIR | OUT | IN | | 1033098H | | | | | 1 | | 44 | 50 | 1E-3 | 1123 | 4315 |
| GH1629X | PITCH FLSD/DIR | OUT | IN | | 1033098H | | | | | 1 | | 44 | 50 | 1E-3 | 1123 | 4315 |
| GH1630X | YAW FLSD/DIR | OUT | IN | | 1033098F | | | | | | | 44 | 50 | 1E-3 | 1123 | 4315 |
| GH1641X | ACS MODE AUTO | OFF | ON | | 1037098A | | | | | 1 | | 44 | 50 | 1E-3 | 1123 | |
| GH1642X | ACS MODE ATT HOLD | OFF | ON | | 1037098B | | | | | 1 | | 44 | 50 | 1E-3 | 1123 | |
| GH1643X | PGNS MODE AUTO | OFF | ON | | 1037098E | | | | | 1 | | 44 | 50 | 1E-3 | 1123 | 4425 |
| GH1644X | PGNS MODE ATT HOLD | OFF | ON | | 1037098D | | | | | 1 | | 44 | 50 | 1E-3 | 1123 | 4425 |
| GH1893X | X TRANS OVERRIDE | ON | OFF | | 1047098E | | | | | | | 44 | 50 | 1E-3 | | 4330 |
| GH1896X | UNEAL CPLS | NO | YES | | 1037098C | | | | | 1 | | 44 | 50 | 1E-3 | | 4316 |
| GI3301T | ASA TEMP | °F | 20 | 200 | 1018005 | 1 | .2 | .2 | 1 | | 71 | 23A | | LP-9 | | 4310 |
| GI3305X | ACS WARMUP | OFF | ON | | 1033098E | | | | | | | 45 | 50 | | | 4315 |
| GI3306X | ACS STBY | OFF | ON | | 1033098D | | | | | | | 45 | 50 | | | 4315 |
| GLO302X | FORMAT ID. | HER | LER | | | 1 | 1 | 1 | 1 | | | | | LP-24 | | |
| GLO400X | OSC FAIL DETCT | NO | YES | | 1009098A | | | | | | | 46 | 50 | 1E-4 | 1001 | 4006 |
| GLO401V | CAL 85 PCT | VDC | 0 | 5 | 1103099 | 1 | .1 | .1 | 1 | 10 | 70 | 24A | | LP-10 LP-24 | 1001 | 4006 |
| GLO402V | CAL 15 PCT | VDC | 0 | 5 | 1103099 | 1 | .1 | .1 | 1 | 10 | 70 | 24A | | LP-10 LP-24 | 1001 | 4006 |
| GLO422V | OSC FAIL DETCT 2 | VDC | 0 | 5 | 1044101 | 1 | .2 | .2 | 1 | | | 24A | | LP-10 | 1001 | 4006 |
| GLO423V | OSC FAIL DETCT 3 | VDC | 0 | 5 | 1023037 | 1 | .2 | .2 | 1 | | | 24A | | LP-10 | 1001 | 4006 |
| GLA026X | CES AC POWER FAIL | YES | NO | | 1009098H | | | | | | | 46 | 51 | 1E-4 | | 4310 |
| GLA027X | CES DC PWR FAIL | YES | NO | | 1009098G | | | | | | | 46 | 51 | 1E-4 | | 4310 |
| GLA028X | ACS PWR FAIL | YES | NO | | 1009098F | | | | | | | 46 | 51 | 1E-4 | | 4310 |
| GLA047X | BPS BATTERY CAUT | YES | NO | | 1009098C | | | | | | | 46 | 51 | 1E-4 | 1001 | 4009 |
| GLA054X | C W PWR FAIL | YES | NO | | 1009098E | | | | | | 70 | 46 | 51 | 1E-4 | 1001 | 4006 |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft tab no. | |
|----------------------|------------------------------|------|------------------|-------------------|---------------------------------|---|----|----|----|-----|--------------------------|------------------------------------|------|--|---------------------------------|---------------------|------|
| Number | Title | Unit | Approx. range | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | | |
| | | | Low | | | | | | | | | | High | | | | |
| GL4057X | MASTER ALARM ON | | YES | NO | 100909SD | | | | | 1 | | 70 | 46 | 51 | IE-4 | 1001 | 4310 |
| GL2275T (GL5401U) | RTG CASK SHLD TEMP/ECA NO. 1 | °F | -200 | 500 | 1047005 | 1 | .1 | .1 | 1 | | | 70 | 24A | | LP-10 | 1001 | 4002 |
| GL5000X | LAND GEAR DEPLOY | | NO | YES | 1045008H | 1 | 1 | 1 | 1 | | | | 46 | 50 | IE-4 | 1001 | |
| GL7521X | LR RANGE RAD | | NO | YES | 1002098H | | | | | | | | 46 | 51 | IE-4 | | 4430 |
| GL7557X | LR VEL RAD | | NO | YES | 1002098G | | | | | | | | 46 | 51 | IE-4 | | 4475 |
| GL7563T (GL5402U) | LR ANT TEMP/ECA NO. 2 | °F | -200 | 200 | 1043005 | | | | | | | 71 | 24A | | LP-10 | 1137 | 4480 |
| GL7621X | RR NO TRACK | | TRK | NRK | 1032098 | 1 | 1 | 1 | 1 | | | | 46 | 51 | IE-4 | 1137 | 4465 |
| GL7723T | RR ANT TEMP | °F | -200 | +200 | 1039005 | 1 | .1 | .1 | 1 | | | 71 | 24A | | LP-10 | 1137 | 4470 |
| GP0001P | APS HE 1 PRESS | PSIA | 0 | 4000 | 1040037 | 1 | .2 | .2 | 1 | | | 71 | 25A | | LP-11 | 1123 | 4210 |
| GP0002P | APS HE 2 PRESS | PSIA | 0 | 4000 | 1025037 | 1 | .2 | .2 | 1 | 1 | | 71 | 25A | | LP-11 | 1123 | 4210 |
| GP0018P | APS HE REG PRESS | PSIA | 0 | 300 | 1019037 | 1 | .2 | .2 | 1 | | | 71 | 25A | | LP-11 | 1123 | 4210 |
| GP0025P | APS HE REG PRESS | PSIA | 0 | 300 | 1010069 | 1 | .2 | .2 | 1 | 1 | | 71 | 25A | | LP-11 | 1123 | 4210 |
| GP0041P | P NO2 HE SUPP 1 | PSIA | 0 | 4000 | 1101068 | 1 | .1 | .1 | 1 | | | 71 | 25B | | LP-12 | 1125 | 4210 |
| GP0042P | P NO2 HE SUPP 2 | PSIA | 0 | 4000 | 1103065 | 1 | .1 | .1 | 1 | | | 71 | 25B | | LP-12 | 1125 | 4210 |
| GP0318X | APS HE 1 CLSD | OPN | CLSD | | 1049098H | | | | | 1 | | | 47 | 50 | IE-4 | 1123 | 4210 |
| GP0320X | APS HE 2 CLSD | OPN | CLSD | | 1049098G | | | | | 1 | | | 47 | 50 | IE-4 | 1123 | 4210 |
| GP0718T | AR4 FUEL TEMP | °F | 20 | 120 | 1030069 | 1 | .1 | .1 | 1 | | | 71 | 25B | | LP-10 | 1125 | 4230 |
| GP0908X | APS FUEL LOW | NORM | LOW | | 1029100 | | | | | | | | 47 | 50 | IE-4 | 1123 | 4210 |
| GP1218T | APS OX TEMP | °F | 20 | 120 | 1034037 | 1 | .1 | .1 | 1 | | | 71 | 25B | | LP-12 | 1125 | 4230 |
| GP1408X | APS OX LOW | NORM | LOW | | 1029100 | | | | | | | | 47 | 50 | IE-4 | 1123 | 4210 |
| GP1501P | APS FUEL PRESS | PSIA | 0 | 250 | 1017037 | 1 | 1 | 1 | 1 | 1 | | 71 | 25A | 50 | LP-11 | 1123 | 4210 |
| GP1503P | APS OX PRESS | PSIA | 0 | 250 | 1017005 | 1 | 1 | 1 | 1 | 1 | | 71 | 25A | 31A | LP-11 | 1123 | 4210 |
| GP2010P | THRUST CHAMBER PRESS | PSIA | 0 | 150 | 2201015 | 1 | 2 | 5 | 5 | 50 | | 71 | 25B | 33A | LP-12 | 1001 | 4210 |
| GP2997U | APS DELTA POS A | | CLD/ OPN | MID | 1038098F | | | | | | | | 48 | 50 | IE-4 | | 4211 |
| GP2998U | APS DELTA POS B | | CLD/ OPN | MID | 1038098E | | | | | | | | 48 | 50 | IE-4 | | 4211 |
| Q3015P | DPS START TANK P | PSIA | 0 | 1750 | 1011069 | 1 | .2 | .2 | 1 | 1 | | 71 | 26A | | LP-13 | 1123 | 4200 |
| Q3018P | DPS HE REG PRESS | PSIA | 0 | 300 | 1012005 | 1 | .2 | .2 | 1 | 1 | | 71 | 26A | | LP-13 | 1123 | 4200 |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrill tab no. |
|-------------|-------------------|------|---------------|---------|----------------|------------------------------|----|----|----|----|-----|--------------------|---------------------------|------------------------|------------------------------|------------------------|----------------|
| Number | Title | Unit | Approx. range | | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | |
| | | | Low | High | | | | | | | | | | | | | |
| Q3025P | DPS HE REG PRESS | PSIA | 0 | 300 | 1011069 | 1 | .2 | .2 | 1 | 1 | 71 | 26A | | LP-13 | 1123 | 4200 | |
| Q3435P | DPS HE PRESS | PSIA | 0 | 2000 | 1012069 | 1 | .2 | .2 | 1 | 1 | 71 | 26A | | LP-13 | 1123 | 4200 | |
| Q3603Q | DPS FUEL 1 QTY | PCT | 0 | 97 | 1025005 | 1 | 1 | 1 | 1 | 1 | | 26B | 34-A | LP-14 | 1123 | 4200 | |
| Q3604Q | DPS FUEL 2 QTY | PCT | 0 | 97 | 1027037 | 1 | 1 | 1 | 1 | 1 | | 26B | 34-A | LP-14 | 1123 | 4200 | |
| Q3611P | DPS FUEL PRESS | PSIA | 0 | 300 | 1005069 | 1 | 1 | 1 | 1 | 1 | 71 | 26B | 34-A | LP-14 | 1123 | 4200 | |
| Q3718T | DPS FUEL 1 TEMP | °F | 20 | 120 | 1002005 | 1 | .1 | .1 | 1 | | 71 | 26A | | LP-13 | 1125 | 4230 | |
| Q3719T | DPS FUEL 2 TEMP | °F | 20 | 120 | 1031037 | 1 | .1 | .1 | 1 | | 71 | 26A | | LP-13 | 1125 | 4230 | |
| Q4103Q | DPS OX 1 QTY | PCT | 0 | 97 | 1043037 | 1 | 1 | 1 | 1 | | | 26B | 34-A | LP-14 | 1123 | 4230 | |
| Q4104Q | DPS OX 2 QTY | PCT | 0 | 97 | 1035037 | 1 | 1 | 1 | 1 | 1 | | 26B | 34-A | LP-14 | 1123 | 4230 | |
| Q4111P | DPS OX PRESS | PSIA | 0 | 500 | 1003069 | 1 | 1 | 1 | 1 | 1 | 71 | 26B | 34-A | LP-14 | 1123 | 4200 | |
| Q4218T | DPS OX TEMP | °F | 20 | 120 | 1001101 | 1 | .1 | .1 | 1 | | 71 | 26A | | LP-13 | 1125 | 4230 | |
| Q4219T | DPS OX 2 TEMP | °F | 20 | 120 | 1009101 | 1 | .1 | .1 | 1 | | 71 | 27A | | LP-13 | 1125 | 4230 | |
| Q4455X | DPS PROP LG | NORM | LOW | 1038098 | | | | | | | 71 | 47 | 50 | | 1125 | 4250 | |
| Q4510P | DPS TCP | PSIA | 0 | 200 | 2201014 | 1 | 2 | 5 | 5 | 50 | 71 | 26B | 34-A | LP-14 | 1123 | 4200 | |
| Q4606H | VAR IMPT ACT PCC | PCT | 0 | 100 | 2201014 | 1 | | | | 50 | 71 | 26B | 34-A | LP-14 | 1123 | 4200 | |
| GR1059Q | RCS PROP A QTY | PCT | 0 | 103.5 | 1042049 | 1 | .2 | .2 | 1 | | 71 | 27A | | LP-15 | 1123 | 4220 | |
| GR1095Q | RCS PROP B QTY | PCT | 0 | 103.5 | 1035069 | 1 | .2 | .2 | 1 | | 71 | 27A | | LP-15 | 1123 | 4221 | |
| GR1101P | RCS A HE PRESS | PSIA | 0 | 3500 | 1033037 | 1 | .2 | .2 | 1 | 1 | 71 | 27A | | LP-15 | 1123 | 4221 | |
| GR1102P | RCS B HE PRESS | PSIA | 0 | 3500 | 1029069 | 1 | .2 | .2 | 1 | 1 | 71 | 27A | | LP-15 | 1123 | 4221 | |
| GR1201P | RCS A REG PRESS | PSIA | 0 | 350 | 1030005 | 1 | .2 | .2 | 1 | 1 | 71 | 27A | | LP-15 | 1123 | 4220 | |
| GR1202P | RCS B REG PRESS | PSIA | 0 | 350 | 1037005 | 1 | .2 | .2 | 1 | | 71 | 27A | | LP-15 | 1123 | 4221 | |
| GR2121T | RCS A FUEL TEMP | °F | 20 | 120 | 1018037 | 1 | .1 | .1 | 1 | 1 | 71 | 27A | | LP-15 | 1125 | 4230 | |
| GR2122T | RCS B FUEL TEMP | °F | 20 | 120 | 1020037 | 1 | .1 | .1 | 1 | | 71 | 27A | | LP-15 | 1125 | 4230 | |
| GR2201P | A FUEL MFLD PRESS | PSIA | 0 | 350 | 1004069 | 1 | .2 | .2 | 1 | 1 | 71 | 27B | | LP-4 LP-16 | 1123 | 4220 | |
| GR2202P | B FUEL MFLD PRESS | PSIA | 0 | 350 | 1004101 | 1 | .2 | .2 | 1 | 1 | 71 | 27B | | LP-5 LP-16 | 1123 | 4221 | |
| GR3201P | A OX MFLD PRESS | PSIA | 0 | 350 | 1006069 | 1 | .2 | .2 | 1 | 1 | 71 | 27B | | LP-16 LP-4 | 1123 | 4220 | |
| GR3202P | B OX MFLD PRESS | PSIA | 0 | 350 | 1010101 | 1 | .2 | .2 | 1 | 1 | 71 | 27B | | LP-5 LP-16 LP-14 | 1123 | 4221 | |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrill tab no. | |
|-------------|-----------------|------|------------------|-------------------|---------------------------------|---------|------------|----|----|-----|--------------------------|------------------------------------|------|--|---------------------------------|----------------------|------|
| Number | Title | Unit | Approx. range | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | | |
| | | | Low | | | | | | | | | | High | | | | |
| GR5031X | RCS TCP B4U | | OFF | ON | 2201006A | SPECIAL | PROCESSING | | | | | | 43 | | 10-5 1E-5 | | 4345 |
| GR5032X | RCS TCP A4D | | OFF | ON | 2201006B | SPECIAL | PROCESSING | | | | | | 43 | | 10-4 1E-5 | | 4345 |
| GR5033X | RCS TCP B4F | | OFF | ON | 2201006C | SPECIAL | PROCESSING | | | | | | 43 | | 10-5 1E-5 | | 4345 |
| GR5034X | RCS TCP A4B | | OFF | ON | 2201006D | SPECIAL | PROCESSING | | | | | | 43 | | 10-4 1E-5 | | 4345 |
| GR5035X | RCS TCP A3U | | OFF | ON | 2201006E | SPECIAL | PROCESSING | | | | | | 43 | | 10-4 1E-5 | | 4345 |
| GR5036X | RCS TCP B3D | | OFF | ON | 2201006F | SPECIAL | PROCESSING | | | | | | 43 | | 10-5 1E-5 | | 4345 |
| GR5037X | RCS TCP B3A | | OFF | ON | 2201006G | SPECIAL | PROCESSING | | | | | | 43 | | 1E-5 10-5 | | 4345 |
| GR5038X | RCS TCP A3B | | OFF | ON | 2201006H | SPECIAL | PROCESSING | | | | | | 43 | | 10-4 1E-5 | | 4345 |
| GR5039X | RCS TCP B2U | | OFF | ON | 2201007A | SPECIAL | PROCESSING | | | | | | 43 | | 10-5 1E-5 | | 4345 |
| GR5040X | RCS TCP A2D | | OFF | ON | 2201007B | SPECIAL | PROCESSING | | | | | | 43 | | 10-4 1E-5 | | 4345 |
| GR5041X | RCS TCP A2A | | OFF | ON | 2201007C | SPECIAL | PROCESSING | | | | | | 41 | | 10-4 1E-5 | | 4345 |
| GR5042X | RCS TCP B2L | | OFF | ON | 2201007D | SPECIAL | PROCESSING | | | | | | 43 | | 10-5 1E-5 | | 4345 |
| GR5043X | RCS TCP A1D | | OFF | ON | 2201007E | SPECIAL | PROCESSING | | | | | | 43 | | 10-4 1E-5 | | 4345 |
| GR5044X | RCS TCP B1D | | OFF | ON | 2201007F | SPECIAL | PROCESSING | | | | | | 43 | | 10-5 1E-5 | | 4345 |
| GR5045X | RCS TCP A1F | | OFF | ON | 2201007G | SPECIAL | PROCESSING | | | | | | 43 | | 10-4 1E-5 | | 4345 |
| GR5046X | RCS TCP B1L | | OFF | ON | 2201007H | SPECIAL | PROCESSING | | | | | | 43 | | 10-5 1E-5 | | 4345 |
| GR6001T | QUAD 4 TEMP | °F | -60 | +260 | 1003003 | 1 | .1 | .1 | 1 | | | 71 | 276 | | 1E-10 | 1123 | 4230 |
| GR6002T | QUAD 3 TEMP | °F | -60 | +260 | 1013005 | 1 | .1 | .1 | 1 | | | 71 | 276 | | 1E-10 | 1123 | 4230 |
| GR6003T | QUAD 2 TEMP | °F | -60 | +260 | 1023005 | 1 | .1 | .1 | 1 | | | 71 | 276 | | 1E-10 | 1123 | 4230 |
| GR6004T | QUAD 1 TEMP | °F | -60 | +260 | 1033005 | 1 | .1 | .1 | 1 | | | 71 | 276 | | 1E-10 | 1123 | 4230 |
| GR9009U | RCS MAIN A CLSD | ON | CLSD | | 1013098F | | | | | 1 | | | 49 | 51 | 1E-5 | 1123 | 4220 |
| GR9010U | RCS MAIN B CLSD | ON | CLSD | | 1013098E | | | | | 1 | | | 49 | 51 | 1E-5 | 1123 | 4221 |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrill tab no. | |
|-------------|----------------------------|------|---------------|----------------|------------------------------|----|----|----|----|-----|--------------------|---------------------------|------|------------------------------|------------------------|----------------|------|
| Number | Title | Unit | Approx. range | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | | |
| | | | Low | | | | | | | | | | High | | | | |
| GR9613U | A/B XFEED OPEN | | CISD | OPEN | 1013098B | | | | | 1 | | | 49 | 51 | IE-5 | 1123 | 4221 |
| GR9631U | FUEL IN/OUT A ON | | CISD | OPEN | 1013098D | | | | | 1 | | | 49 | 51 | IE-5 | 1123 | 4220 |
| GR9632U | FUEL IN/OUT B ON | | CISD | OPEN | 1013098C | | | | | 1 | | | 49 | 51 | IE-5 | 1123 | 4221 |
| GR9641U | OXID IN/OUT A ON | | CISD | OPEN | 1013098H | | | | | 1 | | | 49 | 51 | IE-5 | 1123 | 4220 |
| GR9642U | OXID IN/OUT A ON | | CISD | OPEN | 1013098E | | | | 1 | 1 | | | 49 | 51 | IE-5 | 1123 | 4221 |
| GR9661X | 4A DISABLED | | OPEN | CISD | 1048098H | | | | | | | | 49 | 51 | IE-5 | 1125 | 4220 |
| GR9662X | 4B DISABLED | | OPEN | CISD | 1048098G | | | | | | | | 49 | 51 | IE-5 | 1125 | 4221 |
| GR9663X | 3A DISABLED | | OPEN | CISD | 1048098F | | | | | | | | 49 | 51 | IE-5 | 1125 | 4220 |
| GR9664X | 3B DISABLED | | OPEN | CISD | 1048098E | | | | | | | | 49 | 51 | IE-5 | 1125 | 4221 |
| GR9665X | 2A DISABLED | | OPEN | CISD | 1048098D | | | | | | | | 49 | 51 | IE-5 | 1125 | 4220 |
| GR9666X | 2B DISABLED | | OPEN | CISD | 1048098C | 1 | .1 | .1 | 1 | | | | 49 | 51 | IE-6 | 1125 | 4221 |
| GR9667X | 1A DISABLED | | OPEN | CISD | 1048098B | | | | | | | | 49 | 51 | IE-6 | 1125 | 4220 |
| GR9668X | 1B DISABLED | | OPEN | CISD | 1048098A | 1 | .1 | .1 | 1 | | | | 49 | 51 | IE-6 | 1125 | 4221 |
| GT0441X | DUA STATUS | | | | 5101097 | | | | | 50 | | | 49 | | IE-6 | | |
| GT0454T | TEMP AT ANT ELEC ASSY | DEG | -200 | +200 | 1028101 | 1 | .1 | .1 | 1 | 1 | | | 28A | | LP-17 | 1468 | 5002 |
| GT0629V | VHF RECVR B AGC | DBM | -40 | -106 | 1024059 | 1 | .1 | .1 | 1 | 1 | | | 28A | | LP-17 | 1468 | |
| GT0992B | S-END ST PH ERROR | KHZ | -186 | +170 | 1048037 | 1 | 1 | 1 | 1 | 1 | | 70 | 28A | | LP-17 | 1468 | 5002 |
| GT0993E | S-END XMIT FWR | KW | -355 | 3143 | 1050101 | 1 | .5 | .2 | 1 | 1 | | 70 | 28A | | LP-17 | 1468 | 5002 |
| GT0994V | S-END RCVR SIG | DBM | -130 | -48 | 1040005 | 1 | 1 | 1 | 1 | 1 | | 70 | 28A | | LP-17 | 1468 | 5002 |
| GY0050X | ABORT CMD | | NO | YES | 1014098H | | | | | 1 | | | 49 | 51 | IE-6 | 1001 | 4031 |
| GY0201X | ED SYS A REL XFR | | NO | YES | 1014098C | | | | | | | | 49 | 51 | IE-6 | 1001 | 4036 |
| GY0202X | ED SYS B REL XFR | | NO | YES | 1014098B | | | | | | | | 49 | 51 | IE-6 | 1001 | 4036 |
| GY0231X | SYS A FED REL CLSD | | OPEN | CISD | 1014098E | | | | | | | | 49 | 51 | IE-6 | 1001 | 4036 |
| GY0232X | SYS B FED REL CLSD | | OPEN | CISD | 1014098D | | | | | | | | 49 | 51 | IE-6 | 1001 | 4036 |
| RT8001T | LCRU RADIATOR TEMP. | °F | 0 | 160 | NOTE 1 | .5 | 1 | 1 | | | | | 30A | | XP-12 | 1468 | 5003 |
| RT8003T | LCRU SUBSYSTEM VOLTAGE | °F | 25 | 33 | NOTE 1 | .5 | 1 | 1 | | | | | 30A | | XP-12 | 1468 | 5003 |
| GT8101V | EVCS 1 CAL 0 PCT | VDC | 0 | 5 | NOTE 3 | .1 | .1 | 1 | | | | | | | | 1310 | 4120 |
| GT8102V | EVCS 1 CAL 100 PCT | VDC | 0 | 5 | NOTE 3 | .1 | .1 | 1 | | | | | 29A | | | 1310 | 4120 |
| GT8110P | FLSS NO. 1 FEED H2O | PSIA | 0 | 5 | NOTE 3 | .5 | 1 | 1 | | | | | | | LP-23 | 1310 | 4120 |
| JT8124J | EK7 NO. 1 | VDC | 0 | 5 | NOTE 3 | | | | | | | | | | LP-25 | | |
| GT8140C | FLSS BATTERY CURRENT NO. 1 | AMP | 0 | 10 | NOTE 3 | 1 | 1 | 1 | | | | | 29A | | LP-23 | 1310 | 4120 |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Continued

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. |
|-------------|---|------|------------------|------|-------------------|---------------------------------|----|----|----|----|-----|--------------------------|------------------------------------|------|--|---------------------------------|----------------------|
| Number | Title | Unit | Approx. range | | | 1 | 4 | 5 | 10 | 30 | STD | | SP | | | | |
| | | | Low | High | | | | | | | | | | | | | |
| GT8141V | FLSS NO. 1 BATTERY | VDC | 12 | 20 | NOTE 3 | | 2 | .5 | 1 | | | 29A | LP-25 | 1310 | 4120 | | |
| GT8154T | LCG H2O INLET TEMP. NO. 1 | °F | 40 | 90 | NOTE 3 | | .5 | 1 | 1 | | | 29B | LP-25 | 1310 | 4120 | | |
| GT8163P | PCA O2 NO. 1 | PSIA | 2.5 | 5 | NOTE 3 | | 1 | 1 | 1 | | | 29B | LP-25 | 1310 | 4120 | | |
| GT8170T | FLSS 1 SUB O2 OUT | °F | 40 | 90 | NOTE 3 | | .2 | .5 | 1 | | | 29B | LP-25 | 1310 | 4120 | | |
| GT8175P | FLSS 1 CO2 PARTIAL PRESSURE | PSIG | 0 | 30 | NOTE 3 | | .1 | 1 | 1 | | | 29C | LP-25 | 1310 | 4120 | | |
| GT8182P | FLSS O2 SUPPLY NO. 1 | PSIA | 0 | 1500 | NOTE 3 | | .2 | .5 | 1 | | | 29A | LP-23 | 1310 | 4120 | | |
| GT8196T | FLSS 1 H2O DELTA T | °F | 0 | 15 | NOTE 3 | | .5 | 1 | 1 | | | 29B | LP-23 | 1310 | 4120 | | |
| GT8201V | EVCS 2 CAL 0 PCT | VDC | 0 | 5 | NOTE 4 | | .1 | .1 | 1 | | | | | 1310 | 4121 | | |
| GT8202V | EVCS 2 CAL 100 PCT | VDC | 0 | 5 | NOTE 4 | | .1 | .1 | 1 | | | | | 1310 | 4121 | | |
| GT8210P | FLSS NO. 2 FEED H2O | PSIA | 0 | 5 | NOTE 4 | | .5 | 1 | 1 | | | 29A | LP-23 | 1310 | 4121 | | |
| GT8224J | ENG NO. 2 | VDC | 0 | 5 | NOTE 6 | | | | | | | | LP-25 | | | | |
| GT8240C | FLSS BATTERY CURRENT NO. 2 | AMP | 0 | 10 | NOTE 4 | | 1 | 1 | 1 | | | 29A | LP-23 | 1310 | 4121 | | |
| GT8241V | FLSS NO. 2 BATTERY | VDC | 12 | 20 | NOTE 4 | | .2 | .5 | 1 | | | 29A | LP-26 | 1310 | 4121 | | |
| GT8254T | LCG H2O INLET TEMP. NO. 2 | °F | 40 | 90 | NOTE 4 | | .5 | 1 | 1 | | | 29B | LP-26 | 1310 | 4121 | | |
| GT8268P | PCA O2 NO. 2 | PSIA | 2.5 | 5.0 | NOTE 4 | | 1 | 1 | 1 | | | 29B | LP-26 | 1310 | 4121 | | |
| GT8270T | FLSS 2 SUB O2 OUT | °F | 40 | 90 | NOTE 4 | | .2 | .5 | 1 | | | 29B | LP-26 | 1310 | 4121 | | |
| GT8275P | FLSS 2 CO2 PARTIAL PRESSURE | PSIG | 0 | 30 | NOTE 4 | | .1 | .1 | 1 | | | 29C | LP-27 | 1310 | 4121 | | |
| GT8282P | FLSS O2 SUPPLY NO. 2 | PSIA | 0 | 1500 | NOTE 4 | | .2 | .5 | 1 | | | 29A | LP-26 | 1310 | 4121 | | |
| GT8296T | FLSS 2 H2O DELTA T | °F | 0 | 15 | NOTE 4 | | .5 | 1 | 1 | | | 29B | LP-26 | 1310 | 4121 | | |
| GT9999T | ENG NO. 1/NO. 2 | VDC | 0 | 5 | NOTE 2 | | | | | | | | LP-27 | | | | |
| NOTE 1: | RT8001T and RT8003T are time shared on IRI channel 13 VCO with RT8001T on 20 sec. and RT8003T on 10 sec. | | | | | | | | | | | | | | | | |
| NOTE 2: | This measurement is carried on IRI channel 13 VCO when the LCRU is not operating. | | | | | | | | | | | | | | | | |
| NOTE 3: | FLSS 1 telemetry are sampled by a 30x 1/2 commutator whose output modulates an IRI channel 12 VCO. (PAM/FM) | | | | | | | | | | | | | | | | |
| NOTE 4: | FLSS 2 telemetry are sampled by a 30x 1/2 commutator whose output modulates an IRI channel 11 VCO. (PAM/FM) | | | | | | | | | | | | | | | | |

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TABLE B-IV. - LUNAR MODULE TELEMETRY DATA SUMMARY - Concluded

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. |
|-------------|---|------|------------------|-------------------|---------------------------------|--|--|--|--|--------------------------|------------------------------------|--|--|---------------------------------|----------------------|
| Number | Title | Unit | Approx. range | | | | | | | | | | | | |
| | | | Low | | | | | | | | High | | | | |
| NOTE 5: | Electrocardiogram #1 in FM/FM modulated on IIRIG channel 10. | | | | | | | | | | | | | | |
| NOTE 6: | Electrocardiogram #2 in FM/FM modulated on IIRIG channel 9. | | | | | | | | | | | | | | |

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TABLE IV.- LUNAR MODULE TELEMETRY DATA SUMMARY

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrill tab no. | |
|-------------|------------------------------|------|---------------|----------------|------------------------------|---|----|---|----|----|--------------------|---------------------------|----|------------------------------|------------------------|----------------|------|
| Number | Title | Unit | Approx. range | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | | |
| | | | Low | | | | | | | | | | | | | | High |
| CA1620T | TEMP CREW HS ABL SUR LOC 1A | °F | -260 | +830 | 1022084 | 1 | .1 | | .1 | .1 | | 3,5 | 1A | | CP-1 | 404 | 3600 |
| CA1621T | TEMP CREW HS ABL SUR LOC 4A | °F | -260 | +830 | 1024052 | 1 | .1 | | .1 | .1 | | 3,5 | 1A | | CP-1 | 404 | 3600 |
| CA1622T | TEMP CREW HS ABL SUR LOC 7A | °F | -260 | +830 | 1025084 | 1 | .1 | | .1 | .1 | | 3,5 | 1A | | CP-1 | 404 | 3600 |
| CA1623T | TEMP CREW HS ABL SUR LOC 12A | °F | -260 | +830 | 1027052 | 1 | .1 | | .1 | .1 | | 3,5 | 1A | | CP-1 | 404 | 3600 |
| SC0030Q | QUANTITY H2 TANK 1 | PGT | 0 | 100 | 1047116 | 1 | .1 | | .1 | .5 | 1 | 4 | 30 | | CP-6 | 613 | 3253 |
| SC0031Q | QUANTITY H2 TANK 2 | PGT | 0 | 100 | 1048116 | 1 | .1 | | .1 | .5 | 1 | 4 | 30 | | CP-6 | 613 | 3253 |
| SC0032Q | QUANTITY O2 TANK 1 | PGT | 0 | 100 | 1049116 | 1 | .1 | | .1 | .5 | 1 | 4 | 30 | | CP-6 | 613 | 3252 |
| SC0033Q | QUANTITY O2 TANK 2 | PGT | 0 | 100 | 1051116 | 1 | .1 | | .1 | .5 | 1 | 4 | 30 | | CP-6 | 613 | 3252 |
| SC0037P | PRESS O2 TANK 1 | PSIA | 50 | 1050 | 1050116 | 1 | .2 | | .5 | .5 | 1 | 4 | 3B | | CP-5 | 613 | 3252 |
| SC0038P | PRESS O2 TANK 2 | PSIA | 50 | 1050 | 1052116 | 1 | .2 | | .5 | 1 | 1 | 4 | 3B | | CP-5 | 613 | 3252 |
| SC0039P | PRESS H2 TANK 1 | PSIA | 0 | 350 | 1012116 | 1 | .2 | | .5 | 1 | 1 | 4 | 3B | | CP-5 | 613 | 3253 |
| SC0040P | PRESS H2 TANK 2 | PSIA | 15 | 350 | 1013116 | 1 | .2 | | .5 | 1 | 1 | 4 | 3B | | CP-5 | 613 | 3253 |
| SC0041T | TEMP O2 TANK 1 | °F | -325 | +450 | 1016116 | 1 | .1 | | .1 | .5 | 1 | 4 | 3D | | CP-7 | 613 | 3252 |
| SC0042T | TEMP O2 TANK 2 | °F | -325 | +450 | 1019116 | 1 | .1 | | .1 | .5 | 1 | 4 | 3D | | CP-7 | 613 | 3253 |
| SC0043T | TEMP H2 TANK 1 | °F | -425 | -200 | 1020116 | 1 | .1 | | .1 | .5 | 1 | 4 | 3E | | CP-8 | 613 | 3252 |
| SC0044T | TEMP H2 TANK 2 | °F | -425 | -200 | 1021116 | 1 | .1 | | .1 | .5 | 1 | 4 | 3E | | CP-8 | 613 | 3252 |
| SC0050Q | QUANTITY H2 TANK 3 | PGT | 0 | 100 | 1001116 | 1 | .2 | | .1 | .1 | 1 | 4 | 30 | | CP-6 | 613 | 3253 |
| SC0051Q | QUANTITY O2 TANK 3 | PGT | 0 | 100 | 1105041 | 1 | .1 | | .1 | .1 | 10 | 4 | 37 | | CP-6 | 613 | 3252 |
| SC0052Q | PRESS H2 TANK 3 | PSIA | 0 | 350 | 1103043 | 1 | .2 | | .2 | .2 | 10 | 4 | 3B | | CP-5 | 613 | 3253 |
| SC0053P | PRESS O2 TANK 3 | PSIA | 50 | 1050 | 1105012 | 1 | .2 | | .2 | .2 | 10 | 4 | 3B | | CP-5 | 613 | 3252 |
| SC0054T | TEMP H2 TANK 3 | °F | -425 | -200 | 1039116 | 1 | .1 | | .1 | .1 | 1 | 4 | 3E | | CP-8 | 613 | 3253 |
| SC0055T | TEMP O2 TANK 3 | °F | -325 | +450 | 1028116 | 1 | .1 | | .1 | .1 | 1 | 5 | 3D | | CP-7 | 613 | 3252 |
| SC0069P | PRESS O2 TANK 2 AND 3 MAIN | PSIA | 50 | 1050 | 1102044 | 1 | .2 | | .2 | .2 | 10 | 4 | 3B | | CP-5 | 613 | 3252 |
| SC0070T | TEMP O2 TANK 1 HEATERS | °F | -300 | +600 | 1036116 | 1 | .1 | | .1 | .1 | 1 | 4 | 3D | | CP-7 | 613 | 3252 |
| SC0071T | TEMP O2 TANK 2 HEATERS | °F | -300 | +600 | 1037116 | 1 | .1 | | .1 | .1 | 1 | 4 | 3D | | CP-7 | 613 | 3252 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued
51.2 KB DATA SYSTEM

| Measurement | | | | | | | | | | | | | | | | | |
|-------------|-------------------------------|------|---------------|------|----------------|------------------------------|----|----|----|----|----|--------------------|---------------------------|----|------------------------------|------------------------|---------------|
| Number | Title | Unit | Approx. range | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft tab no. |
| | | | Low | High | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| SC0072I | TEMP O2 TANK 3 HEATERS | °F | -300 | +500 | 1045116 | 1 | .1 | | .1 | .1 | 1 | 4 | 3D | | CP-7 | 613 | 3252 |
| CC0175I | TEMP STATIC INVERTER 1 | °F | 32 | 248 | 1023084 | 1 | .1 | | .1 | .5 | 1 | 3 | 2A | | CP-2 | 518 | 3005 |
| CC0176I | TEMP STATIC INVERTER 2 | °F | 32 | 248 | 1030052 | 1 | .1 | | .1 | .5 | 1 | 3 | 2A | | CP-2 | 518 | 3005 |
| CC0177I | TEMP STATIC INVERTER 3 | °F | 32 | 248 | 1030084 | 1 | .1 | | .1 | .5 | 1 | 3 | 2A | | CP-2 | 518 | 3005 |
| CC0200V | AC VOLTAGE MAIN BUS 1 PHASE A | VRMS | 0 | 150 | 1105011 | 10 | .2 | 10 | .2 | 10 | 10 | 3 | 2B | | CP-3 | 518 | 3000 |
| CC0203V | AC VOLTAGE MAIN BUS 2 PHASE A | VRMS | 0 | 150 | 1102074 | 10 | .2 | | .2 | 1 | 10 | 3 | 2B | | CP-3 | 518 | 3000 |
| CC0206V | DC VOLTAGE MAIN BUS A | VDC | 0 | 45 | 1102075 | 10 | .2 | | .2 | 1 | 10 | 3,20,21 | 2B | | CP-3 | 518 | 3000 |
| CC0207V | DC VOLTAGE MAIN BUS B | VDC | 0 | 45 | 1102076 | 10 | .2 | | .2 | 1 | 10 | 3,20,21 | 2B | | CP-3 | 518 | 3000 |
| CC0210V | DC VOLTAGE BATTERY BUS A | VDC | 0 | 45 | 1103073 | 10 | .2 | | .2 | 1 | 10 | 3 | 2B | | CP-3 | 518 | 3000 |
| CC0211V | DC VOLTAGE BATTERY BUS B | VDC | 0 | 45 | 1103076 | 10 | .2 | | .2 | 1 | 10 | 3 | 2B | | CP-3 | 518 | 3000 |
| CC0215C | DC CURRENT BATT CHARGER OUT | AMP | 0 | 5 | 1103009 | 5 | .2 | | .2 | 1 | 10 | 3 | 2A | | CP-2 | 518 | 3005 |
| CC0222C | DC CURRENT BATTERY A | AMP | 0 | 100 | 1103010 | 10 | .2 | | .2 | 1 | 10 | 3 | 2A | | CP-2 | 518 | 3000 |
| CC0223C | DC CURRENT BATTERY B | AMP | 0 | 100 | 1104009 | 10 | .2 | | .2 | 1 | 10 | 3 | 2A | | CP-2 | 518 | 3000 |
| CC0225C | DC CURRENT BATTERY C | AMP | 0 | 100 | 1104010 | 5 | .2 | | .2 | 1 | 10 | 3 | 2A | | CP-2 | 518 | 3000 |
| SC0230V | DC VOLTAGE, SM BATTERY | VDC | 0 | 40 | 1105025 | 1 | .2 | | .2 | .2 | 10 | 3 | 2B | | CP-3 | 518 | 3000 |
| CC0232V | DC VOLTAGE BATTERY RELAY BUS | VDC | 0 | 45 | 1103011 | 10 | .2 | | .2 | 1 | 10 | 5 | 2B | | CP-3 | 518 | 3005 |
| SC0206P | O2 PRESSURE FC 1 REGULATED | PSIA | 0 | 75 | 1102108 | 1 | .2 | | .2 | 1 | 10 | 3 | 3F | | CP-9 | 518 | 3015 |
| SC0207P | O2 PRESSURE FC 2 REGULATED | PSIA | 0 | 75 | 1102113 | 1 | .2 | | .2 | 1 | 10 | 3 | 3F | | CP-9 | 518 | 3015 |
| SC0208P | O2 PRESSURE FC 3 REGULATED | PSIA | 0 | 75 | 1102121 | 1 | .2 | | .2 | 1 | 10 | 3 | 3F | | CP-9 | 518 | 3015 |
| SC0209P | H2 PRESSURE FC 1 REGULATED | PSIA | 0 | 75 | 1102122 | 1 | .2 | | .2 | 1 | 10 | 3 | 3F | | CP-9 | 518 | 3015 |
| SC0207P | H2 PRESSURE FC 2 REGULATED | PSIA | 0 | 75 | 1102123 | 1 | .2 | | .2 | 1 | 10 | 3 | 3F | | CP-9 | 518 | 3015 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued

51.7KB DATA SYSTEM

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft lab no. |
|-------------|-------------------------------|-------|------------------|------|-------------------|---------------------------------|----|---|----|----|----|--------------------------|------------------------------------|----|--|---------------------------------|---------------------|
| Number | Title | Unit | Approx. range | | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| | | | Low | High | | | | | | | | | | | | | |
| SC2071P | H2 PRESSURE FC 3 REGULATED | PSIA | 0 | 75 | 1102124 | 1 | .2 | | .2 | 1 | 10 | 3 | 3F | | CP-9 | 518 | 3015 |
| SC2081T | TEMP FC 1 COND EXHAUST | °F | 145 | 250 | 1027116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3H | | CP-11 | 518 | 3010 |
| SC2082T | TEMP FC 2 COND EXHAUST | °F | 145 | 250 | 1041116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3H | | CP-11 | 518 | 3010 |
| SC2083T | TEMP FC 3 COND EXHAUST | °F | 145 | 250 | 1023116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3H | | CP-11 | 518 | 3010 |
| SC2084T | TEMP FC 1 SKIN | °F | 80 | 550 | 1024116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3H | | CP-11 | 518 | 3010 |
| SC2085T | TEMP FC 2 SKIN | °F | 80 | 550 | 1025116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3H | | CP-11 | 518 | 3010 |
| SC2086T | TEMP FC 3 SKIN | °F | 80 | 550 | 1026116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3H | | CP-11 | 518 | 3010 |
| SC2087T | TEMP FC 1 RADIATOR OUTLET | °F | -50 | +300 | 1042116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3I | | CP-12 | 518 | 3010 |
| SC2088T | TEMP FC 2 RADIATOR OUTLET | °F | -50 | +300 | 1043116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3I | | CP-12 | 518 | 3010 |
| SC2089T | TEMP FC 3 RADIATOR OUTLET | °F | -50 | +300 | 1044116 | 1 | .1 | | .1 | .5 | 1 | 3 | 3I | | CP-12 | 518 | 3010 |
| SC2090T | RAD INLET TEMP FC 1 | °F | -50 | +300 | 1044082 | 1 | .1 | | .1 | .5 | 1 | 3 | 3I | | CP-12 | 518 | 3010 |
| SC2091T | RAD INLET TEMP FC 2 | °F | -50 | +300 | 1044084 | 1 | .1 | | .1 | .5 | 1 | 3 | 3I | | CP-12 | 518 | 3010 |
| SC2092T | RAD INLET TEMP FC 3 | °F | -50 | +300 | 1023082 | 1 | .1 | | .1 | .5 | 1 | 3 | 3I | | CP-12 | 518 | 3010 |
| SC2113C | DC CURRENT FC 1 OUTLET | AMP | 0 | +100 | 1103012 | 10 | 1 | | .5 | 1 | 10 | 3,4 | 3A | | CP-4 | 518 | 3010 |
| SC2114C | DC CURRENT FC 2/SK BATTERY | AMP | 0 | 100 | 1103043 | 10 | 1 | | .5 | 1 | 10 | 3,4 | 3A | | CP-4 | 518 | 3000 |
| SC2115C | DC CURRENT FC 3 OUTPUT | AMP | 0 | 100 | 1103044 | 10 | 1 | | .5 | 1 | 10 | 3,4 | 3A | | CP-4 | 518 | 3000 |
| SC2135R | FLOW RATE H2 FC 1 | LB/HR | 0 | .2 | 1103017 | 1 | .2 | | .2 | 1 | 10 | 3,4 | 3G | | CP-10 | 518 | 3015 |
| SC2140R | FLOW RATE H2 FC 2 | LB/HR | 0 | .2 | 1103025 | 1 | .2 | | .2 | 1 | 10 | 3,4 | 3G | | CP-10 | 518 | 3015 |
| SC2141R | FLOW RATE H2 FC 3 | LB/HR | 0 | .2 | 1103026 | 1 | .2 | | .2 | 1 | 10 | 3,4 | 3G | | CP-10 | 518 | 3015 |
| SC2142R | FLOW RATE O2 FC 1 | LB/HR | 0 | 1.6 | 1103027 | 1 | .2 | | .2 | 1 | 10 | 3,4 | 3G | | CP-10 | 518 | 3015 |
| SC2143R | FLOW RATE O2 FC 2 | LB/HR | 0 | 1.6 | 1103028 | 1 | .2 | | .2 | 1 | 10 | 3,4 | 3G | | CP-10 | 518 | 3015 |
| SC2144R | FLOW RATE O2 FC 3 | LB/HR | 0 | 1.6 | 1103041 | 1 | .2 | | .2 | 1 | 10 | 3,4 | 3G | | CP-10 | 518 | 3015 |
| SC2160X | PH FACTOR WATER COND FC 1 | | NORM | HIGH | 11050664 | | | | | | | 3 | 1 | 10 | CE-1 | 518 | 3010 |
| SC2161X | PH FACTOR WATER COND FC 2 | | NORM | HIGH | 11050668 | | | | | | 10 | 3 | 1 | 10 | CE-1 | 518 | 3010 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued
51.2 KB DATA SYSTEM

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft tab no. | |
|-------------|-------------------------------|--------------|------------------|-------------------|---------------------------------|----|----|---|----|---|--------------------------|------------------------------------|----|--|---------------------------------|---------------------|------|
| Number | Title | Unit | Approx. range | | | | | | | | | STD | SP | | | | |
| | | | Low | | High | 1 | 5 | 6 | 8 | 9 | | | | | | | 30 |
| SC2162X | PH FACTOR WATER COND FC 3 | | NORM | HIGH | 11030660 | | | | | | 10 | 3 | 1 | 10 | CE-1 | 518 | 3010 |
| CC2982C | CSM TO LEM CURRENT MONITOR | AMP | 0 | 10 | 1102042 | 10 | .1 | | .1 | 1 | 10 | 3 | 3A | | CP-4 | 518 | 3005 |
| CD0005V | DC VOLTAGE PYRO FUS A | VDC | 0 | 40 | 1101028 | 5 | .5 | | .5 | 1 | 10 | 3 | | 11A | CP-31 | 518 | 3005 |
| CD0006V | DC VOLTAGE PYRO FUS B | VDC | 0 | 40 | 1101017 | 5 | .5 | | .5 | 1 | 10 | 3 | | 11A | CP-31 | 518 | 3005 |
| CD0023X | CM-SM RELAY CLOSE A | | | SEP | 1104067A | | | | | | 10 | | 2 | 10 | CE-1 | | 3635 |
| CD0024X | CM-SM SEP RELAY CLOSE B | | | SEP | 1104068A | | | | | | 10 | | 2 | 10 | CE-1 | | 3600 |
| CD0123X | SIA SEPARATION RELAY A | | | SEP | 1104067B | | | | | | 10 | | 2 | 10 | CE-1 | | 3635 |
| CD0124X | SIA SEPARATION RELAY B | | | SEP | 1104068B | | | | | | 10 | | 2 | 10 | CE-1 | | 3600 |
| CD130X | HAND CONTROLLER INPUT A | | | ABORT | 1103065C | | | | | | 10 | | 2 | 10 | CE-1 | | 3635 |
| CD0131X | HAND CONTROLLER INPUT B | | | ABORT | 1103065D | | | | | | 10 | | 2 | 10 | CE-1 | | 3635 |
| CD0132X | EDS ABORT LOGIC INPUT NO 1 | VOTE/ OFF | | ARM | 1103066A | | | | | | 10 | | 2 | 10 | CE-1 | | 3600 |
| CD0133X | EDS ABORT LOGIC INPUT NO 2 | VOTE/ OFF | | ARM | 1103066B | | | | | | 10 | | 2 | 10 | CE-1 | | 3600 |
| CD0134X | EDS ABORT LOGIC INPUT NO 3 | VOTE/ OFF | | ARM | 1103066C | | | | | | 10 | | 2 | 10 | CE-1 | | 3600 |
| CD0135X | EDS ABORT LOGIC OUTPUT A | | | ABORT | 1103065E | | | | | | 10 | | 2 | 10 | CE-1 | | 3600 |
| CD0136X | EDS ABORT LOGIC OUTPUT B | | | ABORT | 1103065F | | | | | | 10 | | 2 | 10 | CE-1 | | 3600 |
| CD0170X | RCS ACTIVATE SIG A | | | ENABLE | 1104067C | | | | | | 10 | | 2 | 10 | CE-1 | | 3635 |
| CD0171X | RCS ACTIVATE SIG B | | | ENABLE | 1104068C | | | | | | 10 | | 2 | 10 | CE-1 | | 3635 |
| CD0173X | CM RCS PRESS SIG A | | | PRESS | 1104067D | 1 | 1 | | 1 | 1 | 10 | | 2 | 10 | CE-1 | | 3635 |
| CD0174X | CM RCS PRESS SIG B | | | PRESS | 1104068D | 1 | 1 | | 1 | 1 | 10 | | 2 | 10 | CE-1 | | 3635 |
| CD0200V | DC VOLTAGE LOGIC FUS A | VDC | 0 | 40 | 1101027 | 5 | .5 | | .5 | 1 | 10 | 3 | 2 | 11A | CP-27 | 518 | 3005 |
| CD0201V | DC VOLTAGE LOGIC FUS B | VDC | 0 | 40 | 1101025 | 5 | .5 | | .5 | 1 | 10 | 3 | | 11A | CP-27 | 518 | 3005 |
| CD0230X | FWD HS JETTISON A | | | JETT | 1104097A | 1 | 1 | | 1 | 1 | 10 | | 2 | 10 | CE-1 | | 3600 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued
51.2 KB DATA SYSTEM

| MEASUREMENT | | | | | | | | | | | | | | | | | |
|-------------|-------------------------------|--------|---------------|-------------|----------------|------------------------------|----|----|----|----|------------|--------------------|---------------------------|----|------------------------------|------------------------|----------------|
| Number | Title | Unit | Approx. range | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrill tab no. |
| | | | Low | High | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| CD0231X | FWD HS JETTISON B | | | JETT | 1104099E | | | | | | 10 | | 2 | 10 | CE-1 | | 3200 |
| CD0412X | SIM PYRO BUS A ARM | | | ARM | 1103028A | | | | | | 10 | | 2 | 10 | CE-4 | | 3200 |
| CD0413X | SIM PYRO BUS B ARM | | | ARM | 1103028B | | | | | | 10 | | 2 | 10 | CE-4 | | 3200 |
| CD1154X | CSM-LEM LOCK RING SEP RELAY A | | | SEP | 1103067F | | | | | | 10 | | 7 | 10 | CE-4 | | 3200 |
| CD1155X | CSM-LEM LOCK RING SEP RELAY B | | | SEP | 1103067G | | | | | | 10 | | 7 | 10 | CE-4 | | 3200 |
| CE0001X | DROGUE DEPLOY RELAY CLOSE A | | | DE- PLOY | 1105067A | | | | | | 10 | | 3 | 10 | CE-1 | | 3200 |
| CE0002X | DROGUE DEPLOY RELAY CLOSE B | | | DE- PLOY | 1105066F | | | | | | 10 | | 3 | 10 | CE-1 | | 3200 |
| CE0003X | MAIN CHUTE DEPL DRG REL RLY A | | | DE- ELOY | 1105067H | | | | | | 10 | | 3 | 10 | CE-1 | | 3200 |
| CE0004X | MAIN CHUTE DEPL DRG REL RLY B | | | DE- ELOY | 1105066C | | | | | | 10 | | 3 | 10 | CE-1 | | 3200 |
| CE0321X | MAIN CHUTE DISCONNECT RELAY A | | | DISC | 1105067E | | | | | | 10 | | 3 | 10 | CE-1 | | 3200 |
| CE0322X | MAIN CHUTE DISCONNECT RELAY B | | | DISC | 1105066H | | | | | | 10 | | 3 | 10 | CE-1 | | 3200 |
| CF0001P | PRESSURE CABIN | PSIA | 0 | 17 | 1002116 | 1 | .2 | .2 | 1 | 10 | | 4 | 4B | | CP-14 | 613 | 3250 |
| CF0002P | TEMP CABIN | °F | 40 | 125 | 1043084 | 1 | .1 | .1 | .5 | 1 | 4,20,21,22 | 4B | | | CP-14 | 613 | 3250 |
| CF0003P | PRESS O2 SUIT TO CABIN DIFF | IN H2O | -5 | +5 | 1102009 | 1 | .1 | .1 | 1 | | | 4 | 4E | | CP-17 | 613 | 3250 |
| CF0005P | PRESS CO2 PARTIAL | MM HG | 0 | +30 | 1001052 | 1 | .1 | .1 | .5 | 1 | | 4 | 4B | | CP-14 | 613 | 3250 |
| CF0006P | PRESS SURGE TANK | PSIA | 50 | 1050 | 1101012 | 1 | .2 | .2 | 1 | 10 | | 4 | 4B | | CP-14 | 613 | 3250 |
| CF0008P | TEMP SUIT SUPPLY MANIF | °F | 20 | 95 | 1015116 | 1 | .1 | .1 | .5 | 1 | | 4 | 4B | | CP-14 | 613 | 3250 |
| CF0009P | QUANTITY WASTE WATER TANK | PCT | 0 | 100 | 1003116 | 1 | .1 | .1 | .5 | 1 | | 4 | 4B | | CP-14 | 613 | 3253 |
| CF0010P | QUAN POTABLE H2O TANK | PCT | 0 | 100 | 1027116 | 1 | .1 | .1 | .5 | 1 | | 4 | 4B | | CP-14 | 613 | 3253 |
| CF0012P | PRESS SUIT DEMAND REG SENSE | PSIA | 0 | 17 | 1101009 | 1 | .2 | .2 | 1 | 10 | | 4 | 4E | | CP-17 | 613 | 3250 |
| CF0015P | PRESS SUIT COM-PRESSOR DIFF | PSID | 0 | .9 | 1101010 | 1 | .2 | .2 | 1 | 10 | | 4 | 4E | | CP-17 | 613 | 3250 |
| CF0016P | PRESS GLYCOL PUMP OUTLET | PSIG | 0 | 60 | 1101011 | 1 | .2 | .2 | 1 | 10 | | 4 | 4D | | CP-16 | 613 | 3251 |
| CF0017P | TEMP GLYCOL EVAP OUTLET STEAM | °F | 20 | 95 | 1045052 | 1 | .1 | .2 | .2 | 1 | | 4 | 4C | | CP-15 | 613 | 3251 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued
51.2 KB DATA SYSTEM

| Measurement | | | | | | | | | | | | | | | | | |
|-------------|-------------------------------|------------|---------------|------|----------------|------------------------------|----|----|----|----|----|--------------------|---------------------------|----|------------------------------|------------------------|-----------------|
| Number | Title | Unit | Approx. range | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrifty tab no. |
| | | | Low | High | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| CF0018T | TEMP GLY EVAP OUTLET LIQUID | °F | 25 | 75 | 1004116 | 1 | .1 | | .1 | .5 | 1 | 4,20,21 | 4A | | CP-13 | 613 | 3251 |
| CF0019Q | QUANTITY GLYCOL ACCUM | ECT | 0 | 100 | 1101044 | 1 | .2 | | .2 | .5 | 10 | 4 | 4A | | CP-13 | 613 | 3251 |
| CF0020T | TEMP SPACE RADIATOR OUTLET | °F | -50 | +100 | 1005116 | 1 | .1 | | .1 | .5 | 1 | 4 | 4A | | CP-13 | 613 | 3251 |
| CF0034P | BACK PRESS GLYCOL EVAPORATOR | PSIA | 0 | .25 | 1002052 | 1 | .2 | | .2 | 1 | 1 | 4 | 4A | | CP-13 | 613 | 3251 |
| CF0035R | FLOWRATE ECS O2 | LB/HR | .2 | 1 | 1101049 | 1 | .2 | .2 | | .5 | 10 | 3,4 | 4E | | CP-17 | 613 | 3250 |
| CF0036P | PRESS OUTLET O2 REG SUPPLY | PSIG | 0 | 150 | 1102073 | 1 | .2 | | .2 | 1 | 10 | 4 | 4E | | CP-17 | 613 | 3250 |
| CF0070P | PRESS SEC GLYCOL PUMP OUTLET | PSIG | 0 | 60 | 1105044 | 1 | .2 | | .2 | 1 | 10 | 4 | 4E | | CP-17 | 613 | 3251 |
| CF0071T | TEMP SEC EVAP OUTLET LIQUID | °F | 25 | 75 | 1101030 | 1 | .1 | | .1 | .5 | 10 | 4 | 4C | | CP-15 | 613 | 3251 |
| CF0072Q | QUANTITY SEC GLYCOL ACCUM | ECT | 0 | 100 | 1104060 | 1 | .1 | | .1 | .5 | 10 | 4 | 4C | | CP-15 | 613 | 3251 |
| CF0073P | PR SECONDARY EVAP OUT STEAM | PSIA | 0 | .25 | 1003084 | 1 | .1 | | .1 | .5 | 1 | 4 | 4C | | CP-15 | 613 | 3251 |
| CF0120P | PRESS H2O AND GLYCOL TANKS | PSIA | 0 | 50 | 1034084 | 1 | .2 | | .2 | 1 | 1 | 4 | 4A | | CP-13 | 613 | 3250 |
| CF0157R | RATE GLYCOL FROM THERMAL LOAD | LB/HR | 130 | 300 | 1103057 | 1 | .2 | | .2 | 1 | 10 | 4 | 4D | | CP-15 | 613 | 3260 |
| CF0181T | TEMP GLYCOL EVAP INLET | °F | 35 | 100 | 1034052 | 1 | .1 | | .1 | .5 | 1 | 4 | 4A | | CP-13 | 613 | 3251 |
| SF0260T | TEMP PRIMARY RADIATOR INLET | °F | 55 | 120 | 1016116 | 1 | .1 | | .1 | .5 | 1 | 4 | 4A | | CP-13 | 613 | 3251 |
| SF0262T | TEMP SECONDARY RADIATOR INLET | °F | 55 | 120 | 1002084 | 1 | .1 | | .1 | .5 | 1 | 4 | 4C | | CP-15 | 613 | 3251 |
| SF0263T | TEMP SEC RADIATOR OUTLET | °F | 30 | 70 | 1030116 | 1 | .1 | | .1 | .5 | 1 | 4 | 4C | | CP-15 | 613 | 3251 |
| SF0266X | RADIATOR FLOW CONT SYS 1 OR 2 | BYE 1SYS 2 | | | 1101098H | 1 | 1 | 1 | 1 | 1 | 10 | 4 | 4 | 10 | CE-2 | 613 | 3251 |
| CF0460T | TEMP URINE DUMP NOZZLE | °F | 0 | 100 | 1038116 | 1 | .1 | | .1 | .5 | 1 | 4 | 4C | | CP-15 | 613 | 3250 |
| CF0461T | TEMP WASTE WATER DUMP NOZZLE | °F | 0 | 100 | 1028052 | 1 | .1 | | .1 | .5 | 1 | 4 | 4C | | CP-15 | 613 | 3250 |
| CG1040V | 120 VDC PIPA SUPPLY DC LEVEL | VDC | 85 | 135 | 1028084 | 1 | .2 | | .2 | 1 | 1 | 6,21,22 | 6 | 5A | CP-18 CO-3 | | 3620 |
| CG1110V | 2.5 VDC TM BIAS | VDC | 0 | 5 | 1104058 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 6 | 5A | CP-18 CO-3 | | 3620 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued
51.2 KB DATA SYSTEM

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. | |
|-------------|----------------------------|------|------------------|------------------|------------------------------|---|----|---|----|----|--------------------|---------------------------|----|------------------------------|------------------------|----------------|------|
| Number | Title | Unit | Approx. range | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | | |
| | | | Low | | | | | | | | | | | | | | High |
| CG1201V | EDY 26V .KNC I PCT | VRMS | 0 | 31 | 1031052 | 1 | .2 | | | 1 | 1 | 6,21,22 | 5A | | CP-18 CO-3 | | 3620 |
| CG1331V | 3.2 KC 26 V SUPPLY | VRMS | 0 | 31 | 1039052 | 1 | .2 | | .2 | 1 | 1 | 6,21,22 | 5A | | CP-18 CO-3 | | 3620 |
| CG1513X | 26 V IMU STANDBY | OFF | STBY | | 1103067B | | | | | | 10 | | 9 | 10 | CO-3 CE-4 | | 3620 |
| CG1523X | 26 V CMC OPERATE | OFF | OPR | | 1103067C | | | | | | 10 | | 9 | 10 | CO-3 CE-4 | | 3620 |
| CG1533X | 26 V OPTX OPERATE | OFF | OPR | | 1103067D | | | | | | 10 | | 9 | 10 | CO-3 CE-4 | | 3620 |
| CG2112V | IG 1X RESOLVER OUTPUT SIN | DEG | 0 | 360 | 1102060 | 5 | 1 | | 1 | 1 | 10 | 6 | | 12A | CO-3 | | 3620 |
| CG2113V | IG 1X RESOLVER OUTPUT COS | DEG | 0 | 360 | 1102081 | 5 | 1 | | 1 | 1 | 10 | 6 | | 12A | CO-3 | | 3620 |
| CG2117V | IGA SERVO ERROR IN PHASE | VRMS | -3 | +3 | 1201014 | 5 | .5 | | .5 | .5 | 50 | 6 | | 12B | CO-3 | | 3620 |
| CG2142V | MG 1X RESOLVER OUTPUT SIN | DEG | 0 | 360 | 1102089 | 5 | 1 | | 1 | 1 | 10 | 6 | | 12A | CO-3 | | 3620 |
| CG2143V | MG 1X RESOLVER OUTPUT COS | DEG | 0 | 360 | 1102090 | 5 | 1 | | 1 | 1 | 10 | 6 | | 12A | CO-3 | | 3620 |
| CG2147V | MGA SERVO ERROR IN PHASE | VRMS | -3 | +3 | 1201013 | 5 | .5 | | .5 | .5 | 50 | 6 | | 12B | CO-3 | | 3620 |
| CG2172V | OG 1X RESOLVER OUTPUT SINE | DEG | 0 | 360 | 1102091 | 5 | 1 | | 1 | 1 | 10 | 6 | | 12A | CO-3 | | 3620 |
| CG2173V | OG 1X RESOLVER OUTPUT COS | DEG | 0 | 360 | 1102092 | 5 | 1 | | 1 | 1 | 10 | 6 | | 12A | CO-3 | | 3620 |
| CG2177V | OGA SERVO ERROR IN PHASE | VRMS | -3 | +3 | 1201015 | 5 | .5 | | .5 | .5 | 50 | 6 | | 12B | CO-3 | | 3620 |
| CG2300T | RIPA TEMPERATURE | °F | +120 | +140 | 1016004 | 1 | .1 | | .1 | .1 | 1 | 6,21,22 | 5A | | CP-18 CO-3 | 0683 | 3620 |
| CG3721V | SHAFT CDU DAC OUTPUT | VRMS | -12 | +12 | 1102058 | 5 | .5 | | 1 | 5 | 10 | 6 | | 12A | CO-3 | 0683 | 3620 |
| CG3722V | TURNION CDU DAC OUTPUT | VRMS | -12 | +12 | 1102059 | 5 | .5 | | 1 | 5 | 10 | 6 | | 12A | CP-3 | 0683 | 3620 |
| CG5040X | CME WARNING | WARN | | | 1103093A | | | | | | 10 | | 9 | 10 | CO-3 CE-4 | | 3635 |
| CH3500H | FDAI CM/SM ATT ERROR PITCH | DEG | -5 -15 | +5 +15 | 5101062 | 5 | 1 | | 1 | 5 | 50 | 6 | | 13B | CO-1 | 0683 | 3630 |
| CH3501H | FDAI CM/SM ATT ERROR YAW | DEG | -5 -15 | +5 +15 | 5101063 | 5 | 1 | | 1 | 5 | 50 | 6 | | 13B | CO-1 | 0683 | 3630 |
| CH3502H | FDAI CM/SM ATT ERROR ROLL | DEG | -5 -15 -20 | +5 +15 +20 | 1201016 | 5 | 1 | | 1 | 1 | 10 | 6 | | 13B | CO-2 CO-1 | 0683 | 3630 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued
51.2 KB DATA SYSTEM

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. |
|-------------|------------------------------|-----------------|-----------------|-----------------|----------------|------------------------------|---|---|---|---|----|--------------------|---------------------------|-----|------------------------------|------------------------|----------------|
| Number | Title | Unit | Approx. range | | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| | | | Low | High | | | | | | | | | | | | | |
| CH3503R | FDAI SCS BODY RATE PITCH | DEG/SEC | -1 -5 -10 | +1 +5 +10 | 1201021 | 5 | 1 | | 1 | 5 | 50 | 6 | 10A | 13A | CO-2, -1,-5 | 0683 | 3630 |
| CH3504R | FDAI SCS BODY RATE YAW | DEG/SEC | -1 -5 -10 | +1 +5 +10 | 1201022 | 5 | 1 | | 1 | 5 | 50 | 6 | 10A | 13A | CO-2, -1,-5 | 0683 | 3630 |
| CH3505R | FDAI SCS BODY RATE ROLL | DEG/SEC | -1 -5 -50 | +1 +5 +50 | 1201023 | 5 | 1 | | 1 | 5 | 10 | 6 | 10A | 13A | CO-2, -1,-5 | 0683 | 3630 |
| CH3517H | GIMBAL POSITION PITCH 1 OR 2 | DEG | -5 | +5 | 1201024 | 5 | 1 | | 1 | 5 | 50 | 6 | | 13B | CO-2, CO-5 | 0683 | 3630 |
| CH3518H | GIMBAL POSITION YAW 1 OR 2 | DEG | -5 | +5 | 1201046 | 5 | 1 | | 1 | 5 | 50 | 6 | | 13B | CO-2, CO-5 | 0683 | 3630 |
| CH3546X | RCS SOLENOID ACT C3/13/X | FIRE/ARM OFF | | | 2201018A | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3547X | RCS SOLENOID ACT A1/14/X | FIRE/ARM OFF | | | 2201018B | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3548X | RCS SOLENOID ACT A3/23/-X | FIRE/ARM OFF | | | 2201018C | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3549X | RCS SOLENOID ACT C4/24/-X | FIRE/ARM OFF | | | 2201018D | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3550X | RCS SOLENOID ACT D3/25/X | FIRE/ARM OFF | | | 2201018E | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3551X | RCS SOLENOID ACT B4/26/X | FIRE/ARM OFF | | | 2201018F | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3552X | RCS SOLENOID ACT B3/15/-X | FIRE/ARM OFF | | | 2201018G | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3553X | RCS SOLENOID ACT D4/16/-X | FIRE/ARM OFF | | | 2201018H | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3554X | RCS SOLENOID ACT B1/11/Z | FIRE/ARM OFF | | | 2201019A | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3555X | RCS SOLENOID ACT D2/22/Z | FIRE/ARM OFF | | | 2201019B | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3556X | RCS SOLENOID ACT D1/21/-Z | FIRE/ARM OFF | | | 2201019C | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3557X | RCS SOLENOID ACT B2/12/-Z | FIRE/ARM OFF | | | 2201019D | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3558V | RCS SOLENOID ACT A1/Y | FIRE/ARM OFF | | | 2201019E | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3559X | RCS SOLENOID ACT C2/Y | FIRE/ARM OFF | | | 2201019F | | | | | | | | 5 | | CO-1, CE-2 | | |
| CH3560X | RCS SOLENOID ACT C1/-Y | FIRE/ARM OFF | | | 2201019G | | | | | | | | 5 | | CO-1, CE-2 | | |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued
51.2 KB DATA SYSTEM

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. | |
|-------------|---------------------------------|------|---------------|----------------|------------------------------|---|----|---|---|----|--------------------|---------------------------|----|------------------------------|------------------------|----------------|------|
| Number | Title | Unit | Approx. range | | 1 | 5 | 6 | 3 | 2 | 30 | | STD | SP | | | | |
| | | | Low | | | | | | | | | | | | | | High |
| CH3561X | HCS SOLENOID ACT A2/-Y | | FIRE OFF | ARM | 22010134 | | | | | | | 5 | | CO-1, 2 CE-2 | | | |
| CH3574X | TRANSLATIONAL CONTROLLER +X CMD | | OFF | ON | 1104067D | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3575X | TRANSLATIONAL CONTROLLER -X CMD | | OFF | ON | 1104067E | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3576X | TRANSLATIONAL CONTROLLER +Y CMD | | OFF | ON | 1104067H | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3577X | TRANSLATIONAL CONTROLLER -Y CMD | | OFF | ON | 1104068F | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3578X | TRANSLATIONAL CONTROLLER +Z CMD | | OFF | ON | 1104068H | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3579X | TRANSLATIONAL CONTROLLER -Z CMD | | OFF | ON | 1104067B | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3582V | SCS TVC AUTO COMMAND PITCH | VDC | -10 | +10 | 1201095 | 5 | .5 | | 1 | 5 | 10 | 6 | | 13B | CO-2 | 0633 | 3630 |
| CH3583V | SCS TVC AUTO COMMAND YAW | VDC | -10 | +10 | 1201093 | 5 | .5 | | 1 | 5 | 50 | 6 | | 13B | CO-2 | 0633 | 3630 |
| CH3585H | ROT CONTROL/MIVC PITCH CMD | VDC | -10 | +10 | 5101036 | 5 | .5 | | 1 | 2 | 50 | 6 | | 13A | CO-1, -2 | 0633 | 3630 |
| CH3586H | ROT CONTROL/MIVC YAW CMD | VDC | -10 | +10 | 5101125 | 5 | .5 | | 1 | 2 | 50 | 6 | | 13A | CO-1, -2 | 0633 | 3630 |
| CH3587H | ROT CONTROL/MIVC ROLL CMD | DEG | -10 | +10 | 5101126 | 5 | .5 | | 1 | 5 | 50 | 6 | | 13A | CO-1, -2 | 0633 | 3630 |
| CH3588X | ATTITUDE DEADBAND MINIMUM | | MAX | MIN | 1102067B | | | | | | 10 | 6 | 10 | CO-1, CE-3 | | 3630 | |
| CH3590X | HIGH PRO RATE LIMIT | | LOW | HIGH | 1102067D | | | | | | 10 | 6 | 10 | CO-1, -2, CE-3 | | 3635 | |
| CH3592X | FDAL SCALE ERROR 5, RATE 5 | | OFF | ON | 1102067E | | | | | | 10 | 6 | 10 | CO-1, CE-3 | | 3635 | |
| CH3593X | FDAL SCALE ERROR 50/15 | | OFF | ON | 1102067F | | | | | | 10 | 6 | 10 | CO-1, CE-3 | | 3635 | |
| CH3600X | SCS DELTA V CG-IN/CSM POS | CSM | IN/CSM | POS | 1102068C | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3601X | DIR RCS SW NO 1 ENABLE POS | | OFF | ENABLE | 1104097C | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3602X | DIR RCS SW NO 2 ENABLE POS | | OFF | ENABLE | 1104097D | | | | | | 10 | 6 | 10 | CE-3 | | 3635 | |
| CH3604X | SPS SOLENOID DRIVER NO 1 | | FIRE/ OFF | ARM | 1101098D | | | | | | 10 | 6 | 10 | CO-2, CE-3 | | 3635 | |
| CH3605X | SPS SOLENOID DRIVER NO 2 | | FIRE/ OFF | ARM | 1102068D | | | | | | 10 | 6 | 10 | CE-3, CO-2 | | 3635 | |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued

51.2 KB DATA SYSTEM

| Measurement | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrill tab no. |
|-------------|--------------------------------|------|---------------------------|----------------|------------------------------|----|---|---|---|----|--------------------|---------------------------|----|------------------------------|------------------------|----------------|
| Number | Title | Unit | Approx. range Low High | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| CH3606X | LEWIT CYCLE SW OFF POS | | ON OFF | 1104098A | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3607X | SC CONTROL SOURCE SWITCH | CHC | SCS | 1102068E | | | | | | 10 | | 6 | 10 | CE-3, CO-1, C-2 | | 3635 |
| CH3609X | ROLL MAN ATT SW ACCEL CMD POS | | OFF ON | 1104098G | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3610X | R MAN ATT SW MIN IMP CMD POS | | OFF ON | 1104098H | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3612X | PITCH MAN ATT SW ACCEL CMD POS | | OFF ON | 1104098C | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3613X | P MAN ATT SW MIN IMP CMD POS | | OFF ON | 1104098D | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3615X | YAW MAN ATT SW ACCEL CMD POS | | OFF ON | 1104098E | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3616X | YAW MAN ATT SW MIN IMP CMD POS | | OFF ON | 1104098F | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3623X | GYRO 1 COMB SPIN MTRS RUN DET | LOW | NORM | 1102067G | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3624X | GYRO 2 COMB SPIN MTRS RUN DET | LOW | NORM | 1102067G | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3635X | EMAG MODE SW-ROLL ATT 1 RT 2 | | OFF ON | 1105099A | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3636X | EMAG MODE SW-ROLL RATE 2 | | OFF ON | 1105099B | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3638X | EMAG MODE SW-PITCH ATT 1 RT 2 | | OFF ON | 1105099C | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3639X | EMAG MODE SW-PITCH RATE 2 | | OFF ON | 1105099D | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3641X | EMAG MODE SW-YAW ATT 1 RT 2 | | OFF ON | 1105099E | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3642X | EMAG MODE SW-YAW RATE 2 | | OFF ON | 1105099F | | | | | | 10 | | 6 | 10 | CE-3 | | 3635 |
| CH3666C | TVC PITCH DIFF CLUTCH CURRENT | AMP | .8 .8 | 2201008 | 5 | .5 | | 1 | 5 | 50 | 6 | 13A | | CO-2 | 0683 | 3630 |
| CH3667C | TVC YAW DIFF CLUTCH CURRENT | AMP | .8 .8 | 2201056 | 5 | .5 | | 1 | 5 | 50 | 6 | 13A | | CO-2 | 0683 | 3630 |
| CJ0060J | EKG COMMANDER LH COUCH | MV | -2.5 +2.5 | 2201007 | | | | | | | | 14A | | CF-32 | | |
| CJ0061J | EKG COMMANDER CTR COUCH | MV | -2.5 +2.5 | 2201005 | | | | | | | | 14A | | CF-32 | | |
| CJ0062J | EKG LM PILOT COUCH | MV | -2.5 +2.5 | 2201006 | | | | | | | | 14A | | CF-32 | | |

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TABLE IV.- LUNAR MODULE TELEMETRY DATA SUMMARY

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrifl tab no. |
|-------------|------------------------------------|------|------------------|------|-------------------|---------------------------------|----|---|----|----|----|--------------------------|------------------------------------|------|--|---------------------------------|----------------------|
| Number | Title | Unit | Approx. range | | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| | | | Low | Hlgh | | | | | | | | | | | | | |
| CJ0200R | RESP RATE CMD LH COUCH | CHM | -5 | +5 | 5101064 | | | | | | | | | 14A | CP-32 | | |
| CJ0201R | RESP RATE CM PILOT CTR COUCH | CHM | -5 | +5 | 5101043 | | | | | | | | | 14A | CP-32 | | |
| CJ0202R | RESP RATE RM PILOT RH COUCH | CHM | -5 | +5 | 5101044 | | | | | | | | | 14A | CP-32 | | |
| CK0026A | CM ACCEL X-AXIS | G | -2 | +10 | 1201045 | 5 | .1 | | .5 | .5 | 50 | 5 | | 15A | CO-4 CP-33 | | |
| CK0027A | CM ACCEL Y-AXIS | G | -2 | +2 | 5101127 | 5 | .1 | | .5 | .5 | 50 | 5 | | 15A | CO-4 CP-33 | | |
| CK0028A | CM ACCEL Z-AXIS | G | -2 | +2 | 5101128 | 5 | .1 | | .5 | .5 | 50 | 5 | | 15A | CP-33 CO-4 | | |
| CK1040X | 16 MM DATA ACQ CAMERA SHUTTER OPEN | VDC | CLOSED | OPEN | 1201031 | | | | | | | | | 16A | CP-34 | | |
| CK1043X | 70 MM CAMERA SHUTTER OPEN | VDC | CLOSED | OPEN | 1201031 | | | | | | | | | 16A | CP-34 | | 7000 |
| CK1044X | LUNAR TOP CAMERA SHUTTER OPEN | | | | 1201031 | | | | | | | | | | | | |
| CK1051K | RADIATION DOSIMETER 1 | R/HE | 0 | 1000 | 1105090 | 1 | .1 | | .1 | .1 | | | | 17A | CP-35 | | |
| CK1052K | RADIATION DOSIMETER 2 | R/HE | 0 | 1000 | 1101058 | 1 | .1 | | .1 | .1 | | | | 17A | CP-35 | | |
| CK1053R | DOSIMETER RATE CHANGE | VDC | 0 | 5 | 1050084 | 1 | .1 | | .1 | .1 | | 1 | | 17A | CP-35 | | 3700 |
| SL1043P | PAN CAMERA #2 TANK PRESS | PSIA | 0 | 5000 | 1101124 | 1 | .2 | | .1 | .1 | | | E1A | EP-1 | 1345 | 7000 | |
| SL1109T | UVS ELECTRONIC TEMP | °F | -100 | +200 | 1101026 | 1 | .1 | | .1 | .1 | | | E1A | EP-1 | 1345 | 7000 | |
| SL1202T | TEMP THERM ENVIR EM1 XS221,R62 | °F | -100 | +200 | 1101057 | 1 | .1 | | .1 | .1 | | | E1A | EP-1 | 1345 | 7500 | |
| SL1204T | TEMP THERM ENVIR EM1 XS273,R6 | °F | -100 | +200 | 1104049 | 1 | .1 | | .1 | .1 | | | E1A | EP-1 | 1345 | 7500 | |
| SL1206T | TEMP THERM ENVIR EM6 XS257,R6 | °F | -100 | +200 | 1102027 | 1 | .1 | | .1 | .1 | | | E1A | EP-1 | 1334 | 7500 | |
| SL1211T | TEMP THERM ENVIR - - PAN C #2 IN 1 | °F | -100 | +200 | 1104031 | 1 | .1 | | .1 | .1 | | | E1B | EP-2 | 1345 | 7500 | |
| SL1212T | TEMP THERM ENVIR PAN CAMR #2 T | °F | -100 | +200 | 1104032 | 1 | .1 | | .1 | .1 | | | E1B | EP-2 | 1345 | 7500 | |
| SL1215T | TEMP THERM ENVIR MDN BOX | °F | -100 | +200 | 1105107 | 1 | .1 | | .1 | .1 | | | E1B | EP-2 | 1345 | 7500 | |
| SL1217T | TEMP THERM ENVIR EM6 XS305,R | °F | -100 | +200 | 1105124 | 1 | .1 | | .1 | .1 | | | E1B | EP-2 | 1345 | 7500 | |
| SL1220T | TEMP THERM ENVIR SHFL XS206.5,R70 | °F | -98 | 240 | 1103030 | 1 | .1 | | .1 | .1 | | | E1A | EP-1 | 1345 | 7000 | |
| SL1221T | TEMP THERM ENVIR SHFL XS236.4,R70 | °F | -106 | 206 | 1102105 | 1 | .1 | | .1 | .1 | | | E1A | EP-1 | 1334 | 7000 | |
| SL1223T | TEMP HF ANT SFRT SH APT HS | °F | -100 | +200 | 1103092 | 1 | .1 | | .1 | .1 | | | E1A | EP-1 | 1334 | 7000 | |
| SL1250E | CSAR RF POWER OUTPUT HF1 | Volt | 0 | 0.8 | 1033052 | 1 | | | | 1 | | | E2A | EP-3 | 1334 | 7200 | |
| SL1251E | CSAR RF POWER OUTPUT HF2 | Volt | 0 | 1.5 | 1020052 | 1 | | | | 1 | | | E2A | EP-3 | 1334 | 7200 | |
| SL1251E | CSAR RF POWER OUTPUT VHF | Volt | 0 | 5 | 1020052 | 1 | | | | 1 | | | E2A | EP-3 | 1334 | 7200 | |

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TABLE IV.- LUNAR MODULE TELEMETRY DATA SUMMARY

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab. no. |
|-------------|-----------------------------------|------|------------------|------|-------------------|---------------------------------|---|---|---|---|----|-----|--------------------------|------------------------------------|------|--|---------------------------------|-----------------------|
| Number | Title | Unit | Approx. range | | | 1 | 2 | 3 | 4 | 5 | 32 | STD | | SP | | | | |
| | | | Low | High | | | | | | | | | | | | | | |
| SL1255F | CSAR RF OSCILLATOR FREQUENCY | VDC | 0 | 5 | 1033084 | 1 | | | | | 1 | | E2A | | EP-3 | 1334 | 7200 | |
| SL1256T | CSAR INTERNAL TEMPERATURE | °F | 0 | 150 | 1104075 | 1 | | | | | 1 | | E2A | | EP-3 | 1334 | 7200 | |
| SL1257V | CSAR RECEIVER GAIN HF 1 | DEM | 65 | 77 | 1046116 | 1 | | | | | 1 | | E2A | | EP-3 | 1334 | 7200 | |
| SL1258V | CSAR RECEIVER GAIN HF 2 | DEM | 64 | 81 | 1046116 | 1 | | | | | 1 | | E2A | | EP-3 | 1334 | 7200 | |
| SL1258V | CSAR RECEIVER GAIN VHF | DEM | 83 | 85 | 1046116 | 1 | | | | | 1 | | E2A | | EP-3 | 1334 | 7200 | |
| SL1261E | CSAR NOISE POWER HF 1 | DEM | -75 | -63 | 1009116 | 1 | | | | | 1 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1261E | CSAR SPECULAR POWER HF 1 - MODE 1 | DEM | -79 | -62 | 1201047 | 1 | | | | | 1 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1261E | CSAR SPECULAR POWER HF 1 - MODE 2 | DEM | -65 | -59 | 1201047 | 1 | | | | | 1 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1261E | CSAR SPECULAR POWER HF 1 - MODE 3 | DEM | -62 | -56 | 1201047 | 1 | | | | | 1 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1261E | CSAR SPECULAR POWER HF 1 - MODE 4 | DEM | -58 | -48 | 1201047 | 1 | | | | | 1 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1261E | CSAR SPECULAR POWER HF 1 - MODE 5 | DEM | -60 | -35 | 1201047 | 1 | | | | | 1 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR NOISE POWER HF 2 | DEM | -92 | -73 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER HF 2 - MODE 1 | DEM | -80 | -68 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER VHF - MODE 1 | DEM | -85 | -78 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER HF 2 - MODE 2 | DEM | -88 | -76 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER VHF - MODE 2 | DEM | -88 | -61 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER HF 2 - MODE 3 | DEM | -66 | -60 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER VHF - MODE 3 | DEM | -85 | -60 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER HF 2 - MODE 4 | DEM | 62 | -56 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER VHF - MODE 4 | DEM | -61 | -56 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER HF 2 - MODE 5 | DEM | -58 | -40 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1262E | CSAR SPECULAR POWER VHF - MODE 5 | DEM | -79 | -54 | 1201048 | 10 | | | | | 10 | | E2C | | EP-5 | 1334 | 7200 | |
| SL1275Z | OPT REC FILM CASSETTE TEMP | °F | -40 | 150 | 1104041 | 1 | | | | | 1 | | E2B | | EP-4 | 1334 | 7201 | |
| SL1276V | OPT REC CONTROL MODE STATUS | VDC | 0 | 5 | 1033084 | 1 | | | | | 1 | | E2B | | EP-4 | 1334 | 7201 | |
| SL1277V | OPT REC ECHO STATUS | VDC | 0 | 5 | 1033084 | 1 | | | | | 1 | | E2B | | EP-4 | 1334 | 7201 | |
| SL1278V | OPT REC VIDEO STATUS | VDC | 0 | 5 | 1102106 | 1 | | | | | 1 | | E2B | | EP-4 | 1334 | 7201 | |
| SL1279Q | OPTICAL RECORDER FILM REMAINING | FT | 0 | 500 | 1019052 | 1 | | | | | 1 | | E2B | | EP-4 | 1334 | 7201 | |

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TABLE IV.-LUNAR MODULE TELEMETRY DATA SUMMARY

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrifty tab no. |
|-------------|-----------------------------------|------|---------------|------|----------------|------------------------------|----|---|----|----|----|--------------------|---------------------------|-----|------------------------------|------------------------|-----------------|
| Number | Title | Unit | Approx. range | | | 1 | 5 | 6 | 8 | 9 | 10 | | STD | SP | | | |
| | | | Low | High | | | | | | | | | | | | | |
| SP0001P | HE PRESS TANK | PSIA | 0 | 5000 | 1101041 | 2 | .5 | | .5 | 1 | 10 | 5 | 6B | | CP-20 | 683 | 3670 |
| SP0003P | PRESSURE OXIDIZER TANKS 1/2 | PSIA | 0 | 250 | 1101042 | 2 | 1 | | 1 | 5 | 10 | 5 | 6B | | CP-20 | 683 | 3670 |
| SP0006P | PRESSURE FUEL TANKS 1/2 | PSIA | 0 | 250 | 1101043 | 2 | 1 | | 1 | 5 | 10 | 5 | 6B | | CP-20 | 683 | 3670 |
| SP0017T | TEMP SPS UPPER HE TANK | °F | -100 | +200 | 1006052 | 1 | .1 | | .2 | .5 | 1 | 5 | 6C | | CP-21 | 683 | 3670 |
| SP0022H | POSITION FUEL/OX VLV 1 POT B | DEG | 0 | 90 | 1101108 | 5 | .5 | | .5 | 5 | 10 | 5 | 6A | | CP-19 | | 3670 |
| SP0023H | POSITION FUEL/OX VLV 2 POT B | DEG | 0 | 90 | 1101113 | 5 | .5 | | .5 | 5 | 10 | 5 | 6A | | CP-19 | | 3670 |
| SP0024H | POSITION FUEL/OX VLV 3 POT B | DEG | 0 | 90 | 1101121 | 5 | .5 | | .5 | 5 | 10 | 5 | 6A | | CP-19 | | 3670 |
| SP0025H | POSITION FUEL/OX VLV 4 POT B | DEG | 0 | 90 | 1101122 | 5 | .5 | | .5 | 5 | 10 | 5 | 6A | | CP-19 | | 3670 |
| SP0033P | PRESS OXIDIZER TANKS | PSIA | 0 | 250 | 1101042 | 2 | 1 | | 1 | 5 | 10 | 5 | 6B | | CP-20 | 683 | 3670 |
| SP0045T | TEMP ENG VALVE BODY | °F | 0 | +200 | 1013052 | 1 | .2 | | .2 | .1 | 1 | 5 | 6C | | CP-21 | 683 | 3610 |
| SP0046T | TEMP ENG FUEL FEED LINE | °F | 0 | +200 | 1105106 | 1 | .2 | | .2 | .1 | 10 | 5 | 6C | | CP-21 | 683 | 3610 |
| SP0049T | TEMP ENG OX FEED LINE | °F | 0 | +200 | 1006084 | 1 | .2 | | .2 | .1 | 1 | 5 | 6C | | CP-21 | 683 | 3610 |
| SP0054T | TEMP 1 OX DISTRIBUTION LINE | °F | -5 | +204 | 1015054 | 1 | .2 | | .5 | .2 | | | 5A | | CP-18 | 683 | 3610 |
| SP0055T | TEMP OX SMP TK SURF BAY | °F | 0 | 150 | 1048052 | 1 | .1 | | .1 | .1 | | 5 | 6C | | CP-21 | 404 | 3610 |
| SP0056T | TEMP SPS FU SMP TANK SURF BAY 5 | °F | 0 | 150 | 1047052 | 1 | .1 | | .1 | .1 | | 5 | 6C | | CP-21 | 404 | 3610 |
| SP0057T | TEMP 1 FUEL DISTRIBUTION LINE | °F | -3 | +203 | 1020084 | 1 | .2 | | .5 | .2 | | 5 | 5A | | CP-18 | 683 | 3610 |
| SP0058T | OXID STORAGE TANK SURF TEMP BAY 3 | °F | 0 | 150 | 1046084 | 1 | .1 | | .1 | .1 | | 5 | 6C | | CP-21 | 404 | 3610 |
| SP0059T | FUEL STORAGE TANK SURF TEMP BAY 6 | °F | 0 | 150 | 1047084 | 1 | .1 | | .1 | .1 | | 5 | 6C | | CP-21 | 404 | 3610 |
| SP0062T | ENG INJECTOR FLANGE TEMP NO. 2 | °F | -2 | +588 | 1017052 | 1 | .2 | | .5 | .2 | | 5 | 5A | | CP-18 | 674 | 3610 |
| SP0066P | PRESS FUEL TANKS | PSIA | 0 | 249 | 1101043 | 2 | 1 | | 1 | 5 | 10 | 5 | 6B | | CP-20 | 683 | 3670 |
| SP0630P | SPS PRINT TKS 12A PRESS | PSIA | 0 | 5000 | 1004052 | 1 | .5 | | .5 | 1 | 1 | 5 | 6B | | CP-20 | 683 | 3670 |
| SP0631P | SPS PRINT TKS 12B PRESS | PSIA | 0 | 5000 | 1004064 | 1 | .5 | | .5 | 1 | 1 | 5 | 6B | | CP-20 | 683 | 3670 |
| SP0655Q | QUAN OX TANK 1 PRI-TOTAL AUX | PCT | 0 | 50 | 1003084 | 1 | 1 | | 1 | 1 | 1 | 5 | 6A | | CP-19 | 683 | 3670 |
| SP0656Q | QUAN OX TANK 2 | PCT | 0 | 60 | 1010052 | 1 | 1 | | 1 | 1 | 1 | 5 | 6A | | CP-19 | 683 | 3670 |
| SP0657Q | QUAN FUEL TANK 1 PRI-TOTAL AUX | PCT | 0 | 50 | 1010084 | 1 | 1 | | 1 | 1 | 1 | 5 | 6A | | CP-19 | 683 | 3670 |
| SP0658Q | PRI-TOTAL AUX QUAN FUEL TANK 2 | PCT | 0 | 60 | 1011052 | 1 | 1 | | 1 | 1 | 1 | 5 | 6A | | CP-19 | 683 | 3670 |
| SP0661P | PRESS ENGINE CHAMBER | PSIA | 0 | 150 | 1201054 | 5 | 1 | | 1 | 5 | 50 | 5 | | 18A | | 683 | 3670 |
| SP0930P | PRESS FUEL SM/ENG INTERFACE | PSIA | 0 | 300 | 1105127 | 5 | .5 | | .5 | 5 | 10 | 5 | 6B | | CP-20 | 683 | 3670 |
| SP0931P | PRESS OX SM/ENG INTERFACE | PSIA | 0 | 300 | 1105059 | 5 | .5 | | .5 | 5 | 10 | 5 | 6B | | CP-20 | 683 | 3670 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued
51.2 KB DATA SYSTEM

| 31.2 KB DATA SYSTEM | | | | | | | | | | | | | | | | | |
|---------------------|-------------------------------|------|---------------|------|----------------|------------------------------|----|---|----|----|----|--------------------|---------------------------|----|------------------------------|------------------------|----------------|
| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. |
| Number | Title | Unit | Approx. range | | | | | | | | | | STD | SP | | | |
| | | | Low | High | | 1 | 5 | 6 | 8 | 1 | 30 | | | | | | |
| CR0001P | HE PRESS TANK 1 | PSIA | 0 | 5000 | 1006116 | 1 | 1 | | 1 | 1 | 10 | 5 | 7A | | CP-22 | 0683 | 3510 |
| CR0002P | HE PRESS TANK 2 | PSIA | 0 | 5000 | 1007116 | 1 | 1 | | 1 | 1 | 10 | 5 | 7A | | CP-22 | 0683 | 3500 |
| CR0003T | HE TEMP TANK 1 | °F | 0 | +300 | 1105042 | 1 | 1 | | 1 | .5 | 10 | 5 | 7A | | CP-22 | 0683 | 3500 |
| CR0004T | HE TEMP TANK 2 | °F | 0 | +300 | 1105043 | 1 | 1 | | 1 | .5 | 10 | 5 | 7A | | CP-22 | 0683 | 3500 |
| CR0035P | PRESS CM-RCS HE MANIFOLD 1 | PSIA | 0 | 400 | 1101075 | 5 | 1 | | 1 | 1 | 10 | 5 | 7A | | CP-22 | 0683 | 3500 |
| CR0036P | PRESS CM-RCS HE MANIFOLD 2 | PSIA | 0 | 400 | 1101076 | 5 | 1 | | 1 | 1 | 10 | 5 | 7A | | CP-22 | 0683 | 3500 |
| SR5001P | HE PRESS TANK A | PSIA | 0 | 5000 | 1009116 | 1 | 1 | | 1 | 1 | 1 | 5 | 7B | | CP-23 | 0683 | 3510 |
| SR5002P | HE PRESS TANK B | PSIA | 0 | 5000 | 1009116 | 1 | 1 | | 1 | 1 | 1 | 5 | 7B | | CP-23 | 0683 | 3510 |
| SR5003P | HE PRESS TANK C | PSIA | 0 | 5000 | 1010116 | 1 | 1 | | 1 | 1 | 1 | 5 | 7B | | CP-23 | 0683 | 3520 |
| SR5004P | HE PRESS TANK D | PSIA | 0 | 5000 | 1011116 | 1 | 1 | | 1 | 1 | 1 | 5 | 7B | | CP-23 | 0683 | 3520 |
| SR5013T | HE TEMP TANK A | °F | 0 | +100 | 1105073 | 1 | .2 | | .2 | .2 | 10 | 5 | 7D | | CP-25 | 0683 | 3510 |
| SR5014T | HE TEMP TANK B | °F | 0 | +100 | 1105074 | 1 | .2 | | .2 | .2 | 10 | 5 | 7D | | CP-25 | 0683 | 3510 |
| SR5015T | HE TEMP TANK C | °F | 0 | +100 | 1105075 | 1 | .2 | | .2 | .2 | 10 | 5 | 7D | | CP-25 | 0683 | 3520 |
| SR5016T | HE TEMP TANK D | °F | 0 | +100 | 1105076 | 1 | .2 | | .2 | .2 | 10 | 5 | 7D | | CP-25 | 0683 | 3520 |
| SR5025Q | QUAN SH HE PRESS/TEMP RATED A | PCT | 0 | 100 | 1031116 | 1 | .2 | | .2 | .2 | 1 | 5 | 7D | | CP-25 | 0683 | 3510 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued

51.2 KB DATA SYSTEM

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft lab no. |
|-------------|---------------------------------------|------|------------------|------|-------------------|---------------------------------|----|---|----|----|----|--------------------------|------------------------------------|----|--|---------------------------------|---------------------|
| Number | Title | Unit | Approx. range | | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| | | | Low | High | | | | | | | | | | | | | |
| SR5026Q | QUAN SH HE PRESS/TEMP RATIO B | PCT | 0 | 100 | 1033116 | 1 | .2 | | .2 | .2 | 1 | 5 | 7D | | CP-25 | 0683 | 3510 |
| SR5027Q | QUAN SH HE PRESS/TEMP RATIO C | PCT | 0 | 100 | 1034116 | 1 | .2 | | .2 | .2 | 1 | 5 | 7D | | CP-25 | 0683 | 3520 |
| SR5028Q | QUAN SH HE PRESS/TEMP RATIO D | PCT | 0 | 100 | 1035116 | 1 | .2 | | .2 | .2 | 1 | 5 | 7D | | CP-25 | 0683 | 3520 |
| SR5069T | TEMP ENGINE PACKAGE A | °F | 0 | +300 | 1046052 | 1 | .1 | | .1 | .1 | 1 | 5 | 7E | | CP-26 | 0683 | 3510 |
| SR5066T | TEMP ENGINE PACKAGE B | °F | 0 | +300 | 1006084 | 1 | .1 | | .1 | .1 | 1 | 5 | 7E | | CP-26 | 0683 | 3510 |
| SR5067T | TEMP ENGINE PACKAGE C | °F | 0 | +300 | 1007052 | 1 | .1 | | .1 | .1 | 1 | 5 | 7E | | CP-26 | 0683 | 3510 |
| SR5068T | TEMP ENGINE PACKAGE D | °F | 0 | +300 | 1007084 | 1 | .1 | | .1 | .1 | 1 | 5 | 7E | | CP-26 | 0683 | 3520 |
| SR5064T | TEMP OX FEED LINE FLTR QUAD A | °F | 0 | 150 | 1104081 | 1 | .1 | | .1 | .1 | | 5 | 7F | | CP-27 | 0674 | 3525 |
| SR5070T | TEMP. OX FEED LINE FLTR QUAD B | °F | 0 | 150 | 1104083 | 1 | .1 | | .1 | .1 | | 5 | 7F | | CP-27 | 0674 | 3525 |
| SR5071T | TEMP OX FEED LINE FLTR QUAD C | °F | 0 | 150 | 1001084 | 1 | | | .1 | .1 | | 5 | 7F | | CP-27 | 0674 | 3525 |
| SR5072T | TEMP OX FEED LINE FLTR QUAD D | °F | 0 | 150 | 1104090 | 1 | .1 | | .1 | .1 | | 5 | 7F | | CP-27 | 0674 | 3525 |
| SR5073T | TEMP. FRI. FU TK OUT SURF TEMP QUAD A | °F | 0 | 150 | 1104105 | 1 | .1 | | .1 | .1 | | 5 | 7F | | CP-27 | 0674 | 3525 |
| SR5074T | TEMP FRI. FU TK OUT SURF QUAD B | °F | 0 | 150 | 1104106 | 1 | .1 | | .1 | .1 | | 5 | 7F | | CP-27 | 0674 | 3525 |
| SR5075T | TEMP. FRI FU TK OUT SURF QUAD C | °F | 0 | 150 | 1104107 | 1 | .1 | | .1 | .1 | | 5 | 7F | | CP-27 | 0674 | 3525 |
| SR5076T | TEMP. FU TK OUT SURF QUAD D | °F | 0 | 150 | 1104108 | 1 | .1 | | .1 | .1 | | 5 | 7F | | CP-27 | 0674 | 3525 |
| SR5729F | A HE MANIFOLD PRESS | PSIA | 0 | 400 | 1102011 | 1 | 1 | | 1 | 1 | 10 | 5 | 7B | | CP-23 | 0683 | 3510 |
| SR5733F | OX MANIFOLD PR SYS A | PSIA | 0 | 300 | 1101081 | 1 | 1 | | 1 | 1 | 10 | 5 | 7B | | CP-23 | 0683 | 3510 |
| SR5737F | FUEL MANIFOLD PR SYS A | PSIA | 0 | 400 | 1103074 | 1 | 1 | | 1 | 1 | 10 | 5 | 7B | | CP-23 | 0683 | 3510 |
| SR5776F | B HE MANIFOLD PRESS | PSIA | 0 | 400 | 1102012 | 1 | 1 | | 1 | 1 | 10 | 5 | 7B | | CP-23 | 0683 | 3510 |
| SR5780F | OX MANIFOLD PR SYS B | PSIA | 0 | 300 | 1101089 | 1 | 1 | | 1 | 1 | 10 | 5 | 7C | | CP-24 | 0683 | |
| SR5784F | FUEL MANIFOLD PR SYS B | PSIA | 0 | 400 | 1103076 | 1 | 1 | | 1 | 1 | 10 | 5 | 7C | | CP-24 | 0683 | 3510 |
| SR5817F | C HE MANIFOLD PRESS | PSIA | 0 | 400 | 1102011 | 1 | 1 | | 1 | 1 | 10 | 5 | 7C | | CP-24 | 0683 | 3520 |
| SR5820F | OX MANIFOLD PR SYS C | PSIA | 0 | 300 | 1101092 | 1 | 1 | | 1 | 1 | 10 | 5 | 7C | | CP-24 | 0683 | 3520 |
| SR5821F | OX MANIFOLD PR SYS D | PSIA | 0 | 300 | 1101105 | 1 | 1 | | 1 | 1 | 10 | 5 | 7C | | CP-24 | 0683 | 3520 |
| SR5822F | FUEL MANIFOLD PR SYS C | PSIA | 0 | 400 | 1104011 | 1 | 1 | | 1 | 1 | 10 | 5 | 7C | | CP-24 | 0683 | 3520 |
| SR5823F | FUEL MANIFOLD PR SYS D | PSIA | 0 | 400 | 1104012 | 1 | 1 | | 1 | 1 | 10 | 5 | 7C | | CP-24 | 0683 | 3520 |
| SR5830F | D HE MANIFOLD PRESS | PSIA | 0 | 400 | 1104076 | 1 | 1 | | 1 | 1 | 10 | 5 | 7C | | CP-24 | 0683 | 3520 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Continued

51.2 KB DATA SYSTEM

| Measurement | | | | | | | | | | | | | | | | | |
|-------------|-----------------------------|------|---------------|-------|----------------|------------------------------|----|----|----|----|------|--------------------|---------------------------|----|------------------------------|------------------------|-----------------|
| Number | Title | Unit | Approx. range | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrifty tab no. |
| | | | Low | High | | 1 | 5 | 6 | 8 | 9 | 30 | | STD | SP | | | |
| BS0081X | EDS ABORT REQUEST A | | NORM | ABORT | 1101092E | | | | | | 10 | | 7 | 10 | CP-4 | | |
| BS0081X | EDS ABORT REQUEST B | | NORM | ABORT | 1101098C | | | | | | 10 | | 7 | 10 | CE-4 | | |
| CS0150X | MASTER CAUTION-WARNING ON | | WARN OFF | NORM | 1101098F | | | | | | 10 | | 7 | 10 | CE-4 | 1465 | 3010 |
| IS0200H | ANGLE OF ATTACK | °ID | 0 | 5 | 1102057 | 5 | | | | | | | | 11 | CE-27 | | |
| CS0220T | TEMP DOCKING PROBE | °F | -100 | +300 | 1003052 | 1 | .1 | .1 | .2 | 1 | 3 | | EP-2 | | EP-2 | 518 | 3005 |
| CT0012X | DSE TAPE MOTION | NO | YES | | 1103066E | | | | | | 10 | 3 | 8 | 10 | CE-4 | 1465 | |
| CT0015V | SIG COMB POS SUPPLY VOLTS | VDC | 0 | 22 | 1101106 | 5 | .2 | .2 | 1 | 10 | 3 | | 8A | | CP-28 | 518 | 3005 |
| CT0016V | SIG COMB NEG SUPPLY VOLTS | VDC | 0 | -22 | 1101107 | 5 | .2 | .2 | 1 | 10 | 3 | | 8A | | CP-28 | 518 | 3005 |
| CT0017V | SENSOR EXCITATION 5 VOLTS | VDC | 0 | 5.5 | 1105123 | 5 | .2 | .2 | 1 | 10 | 3 | | 8A | | CE-28 | 518 | 3005 |
| CT0018V | SENSOR EXCITATION 10 VOLTS | VDC | 0 | 11 | 1102028 | 5 | .2 | .2 | 1 | 10 | 3 | | 8A | | CP-28 | 518 | 3005 |
| CT0120X | PCM BIT RATE CHANGE 8 BIT | | LOW | HIGH | 1001020 | 1 | 1 | 1 | | 1 | 3, 4 | | 8 | | CP-37 CE-4 | 518 | 3200 |
| CT0125V | PCM HI LEVEL 85 PERCENT REF | VDC | 0 | 5 | 1105108 | 5 | .2 | .2 | 1 | 10 | 3 | | 8A | | CP-28 CP-37 | 518 | 3005 |
| CT0126V | PCM HI LEVEL 15 PERCENT REF | VDC | 0 | 5 | 1101123 | 5 | .2 | .2 | 1 | 10 | 3 | | 8A | | CP-28 CP-37 | 518 | 3005 |
| ST0152H | HIGH GAIN ANT POS PITCH | DEG | -90 | +90 | 1104042 | 1 | .5 | .5 | 1 | 10 | 3 | | 8B | | CP-39 | 1465 | |
| ST0153H | HIGH GAIN ANT POS YAW | DEG | 0 | 360 | 1104043 | 1 | .5 | .5 | 1 | 10 | 3 | | 8B | | CP-39 | 1465 | |
| CT0161X | HGA BEAM WIDTH SW POS-MAR | NA | OFF | MAR | 1102068A | | | | | | 10 | | 8 | 10 | CP-39 CE-4 | | |
| CT0162X | HGA BEAM WIDTH SW POS-MED | NA | OFF | MED | 1102068B | | | | | | 10 | | 8 | 10 | CP-39 CE-4 | | |
| CT0163X | HGA TRACK SW POS-AUTO | NA | OFF | AUTO | 1102068C | | | | | | 10 | | 8 | 10 | CP-39 CE-4 | | |
| CT0164X | HGA TRACK SW POS-REACQ | NA | OFF | ACQ | 1102068D | | | | | | 10 | | 8 | 10 | CP-39 CE-4 | | |
| CT0222V | UDL VALIDITY SIG 4-BIT | NA | NA | | 5101100 | 60 | 1 | 1 | 1 | | 3 | | 8 | | CP-37 | 1465 | 5000 |
| CT0340X | PCM SYNC SOURCE EXT OR INT | EXT | EXT | | 1105098B | | | | | | 10 | 3 | 8 | 10 | CE-4 | 518 | 5000 |
| ST0562T | TIM 2 MASTER UNIT TEMP | °F | -20 | +155 | 1105091 | 1 | .1 | .1 | .1 | | | | EP-2 | | EP-2 | 1465 | 7501 |
| ST0563T | TIM 2 SLAVE UNIT & TEMP | °F | -20 | +155 | 1105092 | 1 | .1 | .1 | .1 | | | | EP-2 | | EP-2 | 1465 | 7501 |
| CT0620X | S-BAND REC 1-2 AGC | DEM | 130 | -50 | 1104044 | 5 | .2 | .2 | 1 | | 3 | | 8B | | CP-38 | 518 | 5000 |

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TABLE B-V. - COMMAND AND SERVICE MODULE TELEMETRY SUMMARY - Concluded
51.2 KB DATA SYSTEM

| Measurement | | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrft tab no. |
|-------------|--------------------------------|------|---------------|------|---------|----------------|------------------------------|---|----|----|----|-----|--------------------|---------------------------|-------|------------------------------|------------------------|---------------|
| Number | Title | Unit | Approx. range | | 1 | | 5 | 6 | 8 | 9 | 30 | STD | | SP | | | | |
| | | | Low | High | | | | | | | | | | | | | | |
| CT0640F | G-BAUD RCVR 1-2 STATIC PH ERR | KHZ | -100 | +100 | 1102049 | 5 | .2 | | .2 | 1 | 10 | 3 | 58 | | CP-36 | 1469 | 5000 | |
| ST0820K | PROTON COUNT RATE CHANNEL 1 | KHZ | .1 | 100 | 1101359 | 1 | .1 | | .1 | .1 | | | 17B | | CP-36 | | | |
| ST0841K | PROTON COUNT RATE CHANNEL 2 | KHZ | .1 | 10 | 1101060 | 1 | .1 | | .1 | .1 | | | 17B | | CP-36 | | | |
| ST0822K | PROTON COUNT RATE CHANNEL 3 | KHZ | .1 | 10 | 1101073 | 1 | .1 | | .1 | .1 | | | 17B | | CP-36 | | | |
| ST0823K | PROTON COUNT RATE CHANNEL 4 | KHZ | .1 | 10 | 1101074 | 1 | .1 | | .1 | .1 | | | 17B | | CP-36 | | | |
| ST0830K | ALPHA COUNT RATE CHANNEL 1 | KHZ | .1 | 10 | 1102010 | 1 | .1 | | .1 | .1 | | | 17B | | CP-36 | | | |
| ST0831K | ALPHA COUNT RATE CHANNEL 2 | KHZ | .1 | 10 | 1102017 | 1 | .1 | | .1 | .1 | | | 17B | | CP-36 | | | |
| ST0832K | ALPHA COUNT RATE CHANNEL 3 | KHZ | .1 | 10 | 1102025 | 1 | .1 | | .1 | .1 | | | 17B | | CP-36 | | | |
| ST0835K | PROTON-ALPHA INTEGR COUNT RATE | KHZ | 1 | 100 | 1102026 | 1 | .1 | | .1 | .1 | | | 17B | | CP-36 | | | |
| ST0840T | TEMP NUC PARTICLE DETECTOR | °F | -116 | +205 | 1021052 | 1 | .2 | | .1 | .1 | | | 17A | | CP-35 | | 3796 | |
| ST0841T | TEMP NUC PARTICLE DETECTOR | °F | -117 | +203 | 1021054 | 1 | .2 | | .1 | .1 | | | 17A | | CP-35 | | 3796 | |

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TABLE IV.- LUNAR MODULE TELEMETRY DATA SUMMARY

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrill tab no. | |
|-------------|-----------------------------------|-----------|---------------|-------|----------------|------------------------------|--|--|--|--|--------------------|---------------------------|------|------------------------------|------------------------|----------------|------|
| Number | Title | Unit | Approx. range | | | 16 | | | | | | | STD | | | | SP |
| | | | Low | High | | | | | | | | | | | | | |
| SL1030V | PAN CAMERA V/H COMMAND VOLT | HEAD SPEC | 10 | 20 | 1101030 | 10 | | | | | | | X1-A | | XP-1 | 1341 | 7400 |
| SL1031X | PAN CAMERA AIR SOLENOID | | CLOSE | OPEN | 1105071F | 10 | | | | | | | I | XP-11 | 1341 | | 7400 |
| SL1032T | PAN CAMERA FILM MAG TEMP | °F | 30 | 110 | 1010071 | 0.1 | | | | | | | X1-A | | XP-1 | 1341 | 7400 |
| SL1033H | PAN CAMERA FRAMING ROLL POS | INCH | 0 | 47 | 1102030 | 10 | | | | | | | X1-A | | XP-1 | 1341 | 7400 |
| SL1034H | PAN CAMERA SHUTTLE POSITION | INCH | 0 | 14 | 1103030 | 10 | | | | | | | X1-A | | XP-1 | 1341 | 7400 |
| SL1035C | PAN CAMERA LENS TORQUE CURRENT | AMP | 0 | 10 | 1104030 | 10 | | | | | | | X1-A | | XP-1 | 1341 | 7400 |
| SL1036X | PAN CAMERA CAPTURING SHUTTER P | | CLOSE | OPEN | 1105071G | | | | | | | | I | XP-11 | 1341 | | 7400 |
| SL1037V | PAN CAMERA FWD TACH VOLTAGE | HEAD SPEC | 0 | 20 | 1105030 | 10 | | | | | | | X1-A | | XP-1 | 1341 | 7400 |
| SL1038H | PAN CAMERA EXPOSURE COMMAND | FT | 0 | 2000 | 1106030 | 10 | | | | | | | X1-B | | XP-2 | 1341 | 7400 |
| SL1039T | PAN CAMERA LENS BARREL TEMP | °F | 75 | 105 | 1009030 | 0.1 | | | | | | | X1-B | | XP-2 | 1341 | 7400 |
| SL1040T | PAN CAMERA FWD LENS TEMP | °F | 75 | 105 | 1010030 | 0.1 | | | | | | | X1-B | | XP-2 | 1341 | 7400 |
| SL1041T | PAN CAMERA AFT LENS TEMP | °F | 75 | 105 | 1019030 | 0.1 | | | | | | | X1-B | | XP-2 | 1341 | 7400 |
| SL1042T | PAN CAMERA MECH TEMP | °F | 30 | 110 | 1089030 | 0.1 | | | | | | | X1-B | | XP-2 | 1341 | 7400 |
| SL1044H | PAN CAMERA SLIT WIDTH | INCH | 0 | 0.3 | 1107053 | 10 | | | | | | | X1-B | | XP-2 | 1341 | 7400 |
| SL1045X | PAN CAMERA GO/NO-GO | GO | NO/GC | | 1105071 | 10 | | | | | | | I | XP-11 | | | |
| SL1091V | LASER ALTIMETER REG - 5 VOLTS | ABSENT | FRESENT | | 1101053 | 2 | | | | | | | X5-A | | XP-6 | 1341 | 7403 |
| SL1092V | LASER ALTIMETER MULT VOLTAGE | VOLTS | 0 | -1800 | 1104053 | 10 | | | | | | | X5-A | | XP-6 | 1341 | 7403 |
| SL1093V | LASER ALT FPN VOLT | VOLTS | 0 | 3000 | 1105053 | 10 | | | | | | | X5-A | | XP-6 | 1341 | 7403 |
| SL1094T | LASER ALTIMETER CAVITY TEMP | °F | -13 | 167 | 1102053 | 1 | | | | | | | X5-A | | XP-6 | 1341 | 7403 |
| SL1100K | UVS SPECT CNT - 16 BIT SER PCMD | | | | 1102071 | 1 | | | | | | | X7-A | | | | |
| SL1101T | UVS HOUSING TEMPERATURE | °F | -40 | 180 | 1080072 | 1 | | | | | | | X2-A | | XP-3 | 1330 | 7001 |
| SL1102T | UVS MOTOR TEMPERATURE | °F | -40 | 180 | 1010072 | 1 | | | | | | | X2-A | | XP-3 | 1330 | 7001 |
| SL1103V | UVS INPUT VOLTAGE | VDC | 0 | 40 | 1020071 | 1 | | | | | | | X2-A | | XP-3 | 1330 | 7001 |
| SL1104C | UVS INPUT CURRENT | AMP | 0 | 1 | 1070071 | 1 | | | | | | | X2-A | | XP-3 | 1349 | 7001 |
| SL1105V | UVS PHOTOMULTIPLIER TUBE HI VOLT | VDC | 0 | 4K | 1090071 | 1 | | | | | | | X2-A | | XP-3 | 1330 | 7001 |
| SL1106V | UVS REGULATED VOLTAGE | VDC | 0 | 10 | 1060072 | 1 | | | | | | | X2-A | | XP-3 | 1330 | 7001 |
| SL1122K | LASER SER ALTIMETER OUTPUT 24 BIT | 7134 | 40 | 80 | 1201011 | 2 | | | | | | | X3-A | | | 1341 | 7402 |

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TABLE IV. - LUNAR MODULE TELEMETRY DATA SUMMARY

| Measurement | | | | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots | | Strip chart record setup no. | Primary MSK format no. | Thrift tab no. |
|-------------|-------------------------------------|---------------------|------------------|------|-------------------|---------------------------------|--|--|--|--|--|--------------------------|------------------------------------|---------------|--|---------------------------------|----------------------|
| Number | Title | Unit | Approx. range | | | 16 | | | | | | | STD | SP | | | |
| | | | Low | High | | | | | | | | | | | | | |
| SL1126K | IR SCAN RAD DATA CHANNEL 1 | °K | 0 | 165 | 8201007 | 20 | | | | | | | X2-A | | 1349 | | |
| SL1127K | IR SCAN RAD DATA CHANNEL 2 | °K | 0 | 250 | 8201008 | 20 | | | | | | | X2-A | | 1349 | | |
| SL1128K | IR SCAN RAD DATA CHANNEL 3 | °K | 0 | 400 | 9201005 | 20 | | | | | | | X2-A | | 1349 | | |
| SL1129T | IR SCAN RAD SCAN FR MIRROR TEMP | °F | 0 | 125 | 1030071 | 1 | | | | | | | X3-A | XP-4 | 1330 | 7100 | |
| SL1131T | IR SCAN RAD CALIB PATCH TEMP | °F | 10 | 110 | 1080071 | 1 | | | | | | | X3-A | XP-4 | 1330 | 7100 | |
| SL1132T | IR SCAN RAD DETECT TEMP | °F | 0 | 110 | 1030072 | 1 | | | | | | | X3-A | XP-4 | 1330 | 7100 | |
| SL1134V | IR SCAN RAD BIAS VOLTAGE MON | VDC | 150 | 250 | 1107030 | 1 | | | | | | | X3-A | XP-4 | 1330 | 7100 | |
| SL1135V | IR SCAN RAD CIRCUIT VOLT SUM | VDC | 0 | 5 | 1070072 | 1 | | | | | | | X3-A | XP-4 | 1330 | 7100 | |
| SL1160T | TEMP METRIC LENS FRONT ELMT | °C | 5 | 45 | 1069030 | 0.1 | | | | | | | X6-A | XP-7 | 1341 | 7401 | |
| SL1161T | TEMP METRIC LENS BARREL | °C | 5 | 45 | 1050030 | 0.1 | | | | | | | X6-A | XP-7 | 1341 | 7401 | |
| SL1162T | TEMP STELLAR LENS FRONT ELEMENT | °C | 5 | 45 | 1029030 | 0.1 | | | | | | | X6-A | XP-7 | 1341 | 7401 | |
| SL1163T | TEMP STELLAR LENS BARREL | °C | 5 | 45 | 1030030 | 0.1 | | | | | | | X6-A | XP-7 | 1341 | 7401 | |
| SL1164T | MC TEMP SUPPLY CASSETTE | °C | 5 | 45 | 1049030 | 0.1 | | | | | | | X6-A | XP-7 | 1341 | 7401 | |
| SL1165X | MC IMAGE MOTION OFF/ON CMD | OFF/ON | | | 1039030 | 1 | | | | | | | X6-A | XP-8 | 1341 | 7401 | |
| SL1166R | METRIC SHUTTER DISC SPEED | RPM | 81 | 1280 | 1059030 | 1 | | | | | | | X6-B | XP-8 | 1341 | 7401 | |
| SL1168X | MAP CAMERA DEPLOY/FILM CUT | CUT DEPLOY | | | 1060030 | 1 | | | | | | | X6-B | XP-8 | 1341 | 7401 | |
| SL1172X | MAP CAMERA GO/NO-GO | NO-GO GO | | | 1105071E | | | | | | | | | 1 | XP-11 | | |
| SL1173X | METRIC FILM MOTION/EXP | MOTION EXPOSE | | | | | | | | | | | X6-B | XP-8 | | | |
| SL1176Q | METRIC FILM IN TAKE-UP CASSETTE | FT | 1500 | 0 | 1040030 | 1 | | | | | | | X6-B | XP-8 | 1341 | 7401 | |
| SL1177X | MC CYC RATE/MET SHTR CTR EXP | CLED CR/EXP | | | 8201003B | | | | | | | | X6-A | XP-11 XD-1 | | | |
| SL1180X | IRIG B/PT/DR/AM/STELLAR FILM MOTION | | | | 1105071H | | | | | | | | | 1 | XP-11 | | |
| SL1181V | V/H INCREASE LEVEL | MSAD/SEC | 11 | 16 | 1020030 | | | | | | | | X6-A | XP-8 | 1341 | 7401 | |
| SL1269X | LS HF ANT 1, EXTEND | OFF/STP STRT/RET | | | 1106093A | | | | | | | | | 1 | XP-11 | | |
| SL1270X | LS HF ANT 1, RETRACT | OFF/STP STRT/RET | | | 1106093C | | | | | | | | | 1 | XP-11 | | |
| SL1271X | LS HF ANT 2, EXTEND | OFF/STP STRT/RET | | | 1106093E | | | | | | | | | 1 | XP-11 | | |
| SL1272X | LS HF ANT 2, RETRACT | OFF/STP STRT/RET | | | 1106093G | | | | | | | | | 1 | XP-11 | | |
| SL1273C | LS HF ANT 1, MOTOR CURRENT | AMP | 0 | 4 | 1109053 | | | | | | | | X4-A | XP-5 | | | |
| SL1274C | LS HF ANT 2, MOTOR CURRENT | AMP | 0 | 4 | 1110053 | | | | | | | | X4-A | XP-5 | | | |

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TABLE IV.- LUNAR MODULE TELEMETRY DATA SUMMARY

| Measurement | | | | | | | | | | | | | |
|-------------|------------------------------|------|---------------|------|----------------|------------------------------|--|--|--|--|--|--------------------|---------------------------|
| Number | Title | Unit | Approx. range | | Loading number | MSFN format sample rates S/S | | | | | | Summary TWX number | PCM analog tabs and plots |
| | | | Low | High | | 16 | | | | | | | |
| ST0564W | TIM 2 IRIG TIMING | | | | 8201003A | | | | | | | | |
| ST0565V | TIM 2 FORMAT SIGNAL | VDC | 0 | 5 | 10E0030 | 1 | | | | | | | X6-C |
| ST0567V | TIM 2 MASTER UNIT 5 VOLT REF | VDC | 0 | 5 | 1201014 | 1 | | | | | | | X6-C |
| ST0568V | TIM 2 SLAVE UNIT 5 VOLT REF | VDC | 0 | 5 | 1103053 | 1 | | | | | | | X6-C |

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TABLE B-VI.- CRT ERROR CODES

* Out of normal limits (4 hr)
\$ Out of normal limits (TWX)
◇ Out of normal limits (Display)
P Parity error
S Low bit rate - data not available
H Off scale high
L Off scale low
D Not in format
M Computed quantity - one parameter not available

TABLE B-VII.- TWX SUMMARY DISTRIBUTION

| Data category | Location | | No. of copies |
|---|---|----------------------|---------------------|
| | Folder/table/basket | Room | |
| 1. CSM and LM summary messages: | | | |
| a. Formats 3, 4, 5, 6, 20 through 24, 60 through 66, 70, and 71 | Filed in folders | 315B | 1 |
| b. Formats 3, 5, 70, and 71 | Delivered to table 3D | 306C | 1 |
| 2. SLV summary messages | Discarded | | |
| 3. Other: | | | |
| a. Command history | Delivered to table 6B, Delivered to table 7D, Filed in folder | 306C 306C 315B | 1 1 1 |
| b. DSE dump | Delivered to in-basket Filed in Gibbons' folder Filed in Johnson's folder | 333 315B 315B | 1 1 1 |
| c. Mission reconfiguration requests (MRA's) | Delivered to in-basket Delivered to table 6B Filed in folder | 333 306C 315B | 1 1 1 |
| d. Data recorded messages | Delivered to table 6B Filed in Johnson's folder Filed in Gibbons' folder | 306C 315B 315B | 1 1 1 |
| e. Site configuration messages (SCM's) | Delivered to table 6A Delivered to table 6B Filed in folder | 306C 306C 315B | 1 1 1 |
| f. Instrumentation summary instructions (ISI's) or telemetry summary instructions (TSI's) | Delivered to table 6A Filed in folder Filed in Gibbons' folder | 306C 315B 315B | 1 1 1 |
| g. AGC calibrations | Delivered to table 7A Delivered to table 6B Delivered to in-basket | 306C 306C 333 | 1 1 1 |

| | | | | | |
|-------------------------------|--|--|--|-------------------------------|--|
| USE BLACK BALLPOINT PEN | | SPAN / MISSION EVALUATION ACTION REQUEST | | USE BLACK BALLPOINT PEN | |
| TIME (T- MINUS /GET) | | REQUEST ORGANIZATION | | RESPONSE ORGANIZATION | |
| | | | | CONTROL NUMBER | |
| ACTION REQD BY (TIME): | | | | REQUESTER | |
| SUBJECT: | | | | | |
| | | | | APPROVAL | |
| | | | | TEAM LDR | |
| | | | | TIME : | |
| | | | | CON SR REP | |
| | | | | TIME : | |
| | | | | ME MANAGER | |
| | | | | TIME : | |
| | | | | SPAN MGR | |
| | | | | TIME : | |
| | | | | | |
| | | | | | |
| RESPONSE: | | CONCURRENCE | | | |
| | | FOD REP | | | |
| | | TIME : | | | |
| | | SPAN MGR | | | |
| | | TIME : | | | |
| | | TEAM LDR | | | |
| | | TIME : | | | |
| | | CON SR REP | | | |
| | | TIME : | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| RESPONDER | | | | | |
| ME MANAGER | | | | SPAN MANAGER | |
| TIME : | | | | TIME : | |

Figure B-1.- Sample action request form for use in Building 45.

| | | | | | |
|-------------------------|--|--|--|-------------------------|--|
| USE BLACK BALLPOINT PEN | | SPAN / MISSION EVALUATION ACTION REQUEST | | USE BLACK BALLPOINT PEN | |
| TIME (T- MINUS /GET) | | REQUEST ORGANIZATION | | RESPONSE ORGANIZATION | |
| | | | | CONTROL NUMBER | |
| ACTION REQD BY (TIME): | | | | REQUESTER | |
| SUBJECT: | | APPROVAL | | | |
| | | TEAM LDR | | | |
| | | TIME : | | | |
| | | CON SR REP | | | |
| | | TIME : | | | |
| | | MC MANAGER | | | |
| | | TIME : | | | |
| | | SPAN MGR | | | |
| | | TIME : | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| RESPONSE: | | CONCURRENCE | | | |
| | | FOD REP | | | |
| | | TIME : | | | |
| | | SPAN MGR | | | |
| | | TIME : | | | |
| | | TEAM LDR | | | |
| | | TIME : | | | |
| | | CON SR REP | | | |
| | | TIME : | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| RESPONDER | | | | | |
| MC MANAGER | | | | SPAN MANAGER | |
| TIME : | | | | TIME : | |

SCIENCE/YELLOW

Figure B-5.- Sample action request continuation form.

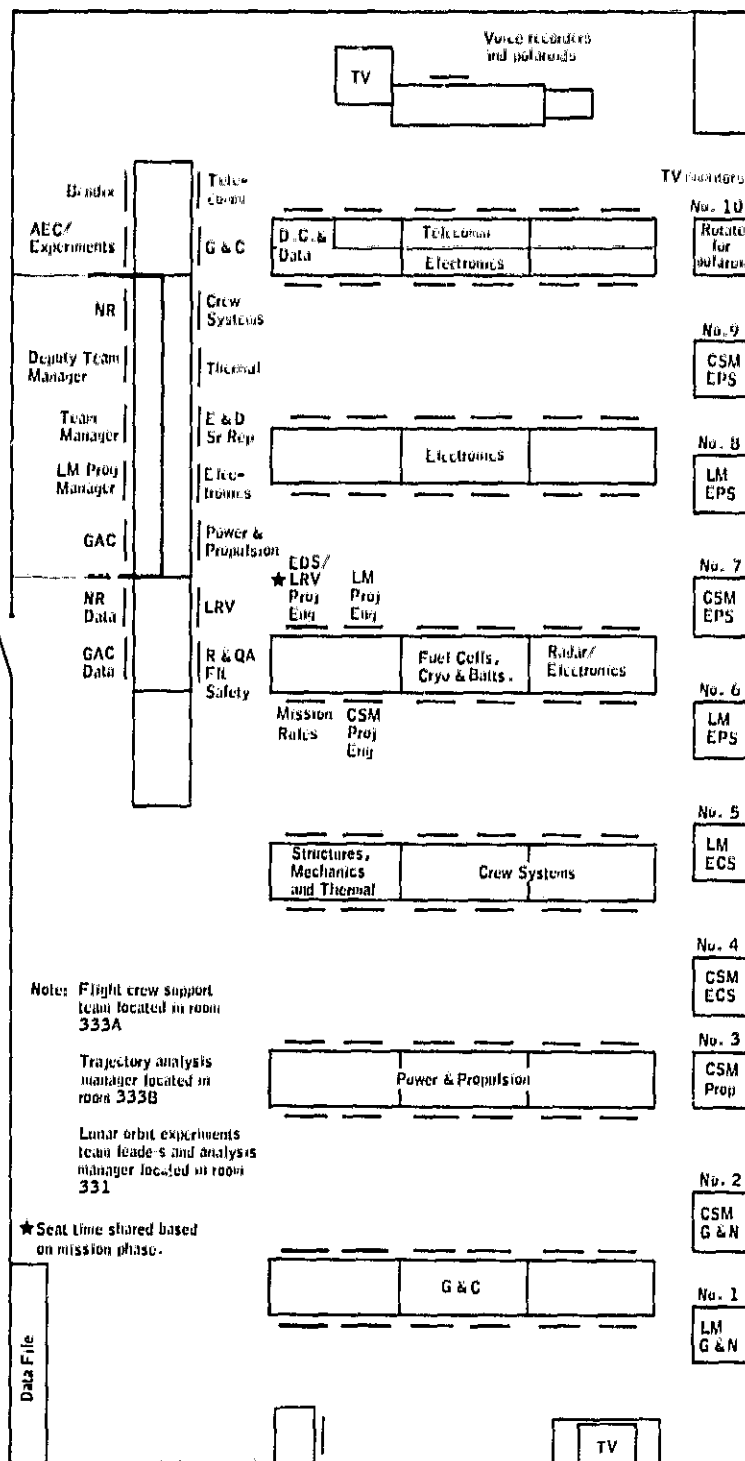
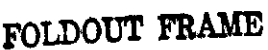


Figure B-4. - Mission evaluation room (Room 306C, building 45).



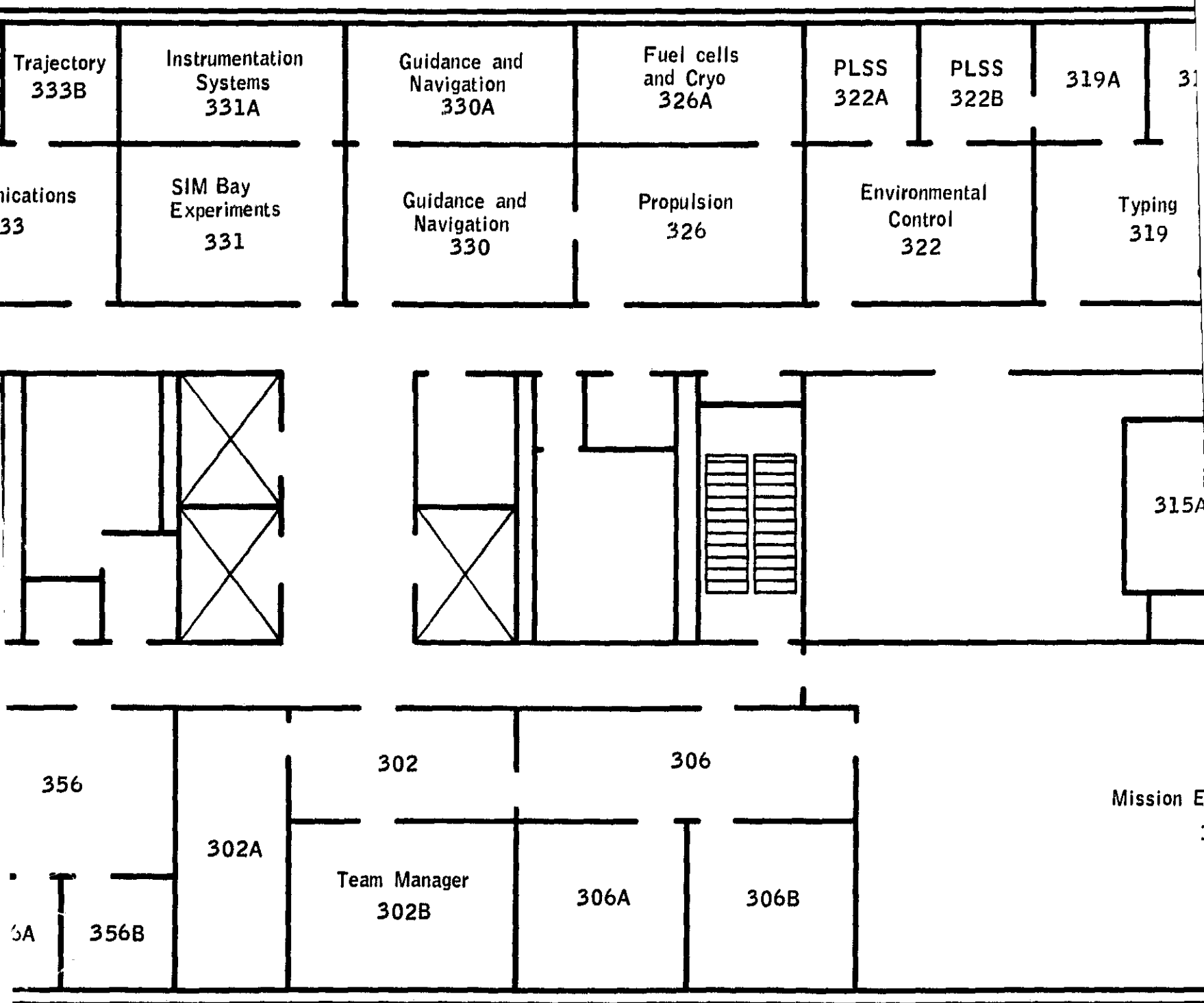


Figure B-7.- Third floor layout and

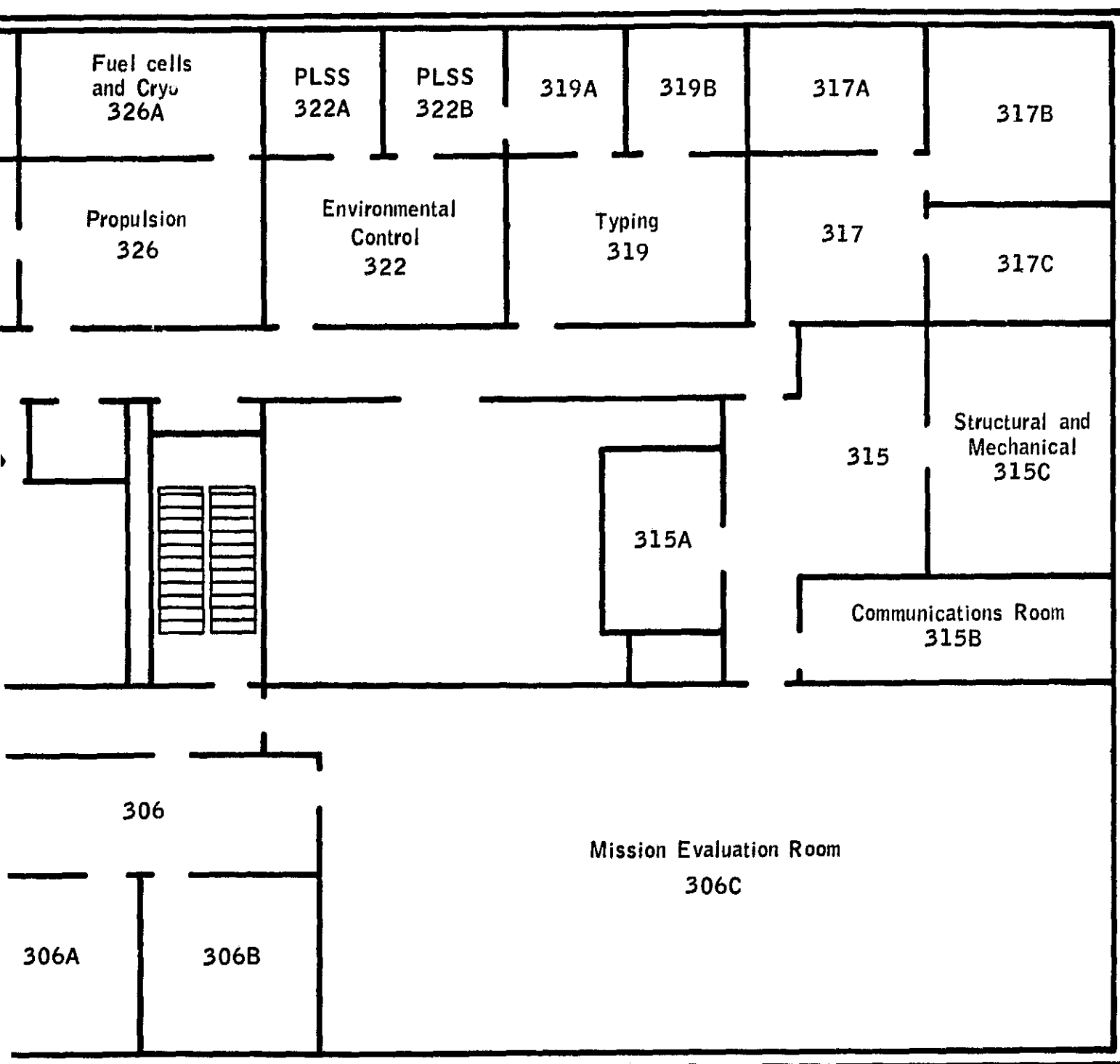


Figure B-7.- Third floor layout and room assignments.

| Section | Title | Responsible person | Due Date |
|---------|---|--------------------|----------|
| 1.0 | Summary | Fricke | Feb. 8 |
| 2.0 | Introduction | Fletcher | Jan. 10 |
| 3.0 | Trajectory | Murray | Jan. 19 |
| 4.0 | Lunar Surface Science | Bates/Baldwin | Feb. 6 |
| 4.1 | Lunar Surface Experiment Equipment | Lowery | Jan. 24 |
| 4.2 | Extravehicular Activities | Schultz | N/A |
| 5.0 | Inflight Science and Photography | Bates/Baldwin | Feb. 13 |
| 5.1 | CSM and LM Experiments | Lauder/Irvin | Jan. 24 |
| 5.2 | Inflight Science Demonstrations | Laurentz | Feb. 1 |
| 5.3 | CSM Experiment Equipment | Giesecke | Jan. 24 |
| 5.4 | Extravehicular Activities | Schultz | N/A |
| 5.5 | Stowage and Hand Photography | Kuehn | Jan. 24 |
| 5.6 | Photography | Bates/Baldwin | Feb. 13 |
| 6.0 | Command and Service Module | Murdee | |
| 6.1 | Structural and Mechanical Systems | Smith | Jan. 18 |
| 6.2 | Thermal | Palmer | Jan. 18 |
| 6.3 | Electrical Power, Fuel Cells, and Batteries | White | Jan. 18 |
| 6.4 | Cryogenic Storage | White | Jan. 18 |
| 6.5 | Communications | Irvin | Jan. 22 |
| 6.6 | Instrumentation | Munford | Jan. 22 |
| 6.7 | Guidance, Navigation, and Control | Finch | Jan. 22 |
| 6.8 | Propulsion | White | Jan. 18 |
| 6.9 | Environmental Control and Crew Station | Hurt | Jan. 23 |
| 6.10 | Controls and Displays | Munford | Jan. 22 |
| 6.11 | Extravehicular Activity Equipment | Hurt | Jan. 23 |
| 6.12 | Consumables | Mechelay | Feb. 5 |
| 7.0 | Lunar Module | | |
| 7.1 | Structural and Mechanical Systems | Smith | Jan. 11 |
| 7.2 | Thermal | Palmer | Jan. 11 |
| 7.3 | Electrical Power and Batteries | White | Jan. 12 |
| 7.4 | Communications | Irvin | Jan. 15 |
| 7.5 | Radar | Irvin | Jan. 15 |
| 7.6 | Instrumentation | Munford | Jan. 15 |
| 7.7 | Guidance, Navigation and Control | Finch | Jan. 16 |
| 7.8 | Propulsion | White | Jan. 12 |
| 7.9 | Environmental Control and Crew Station | Hurt | Jan. 16 |
| 7.10 | Controls and Displays | Munford | Jan. 15 |
| 7.11 | Consumables | Mechelay | Jan. 29 |
| 8.0 | Lunar Surface Operational Equipment | | |
| 8.1 | Lunar Roving Vehicle | Batley/Fendley | Jan. 29 |
| 8.2 | Extravehicular Communications Equipment | Irvin | Jan. 29 |
| 8.3 | Extravehicular Mobility Unit | Hurt | Jan. 26 |
| 9.0 | Pilot's Report | Cernan | Jan. 29 |
| 10.0 | Biomedical | Zieglschmid | Jan. 21 |
| 11.0 | Mission Support Performance | | |
| 11.1 | Flight Control | Frank | Feb. 15 |
| 11.2 | Network | Young | Feb. 16 |
| 11.3 | Recovery | Peterson/Snyder | Feb. 19 |
| 12.0 | Assessment of Mission Objectives | Blackmer | Feb. 12 |
| 13.0 | Launch Phase Summary | Mechelay/Fricke | Feb. 12 |
| 14.0 | Anomaly Summary | Mechelay | March 1 |
| 15.0 | Conclusions | Dodson/Fletcher | Feb. 28 |
| A | Vehicle Description | Fletcher | Nov. 3 |
| B | Vehicle History | Cordiner | Nov. 3 |
| C | Postflight Testing | Stafford | Feb. 26 |
| D | Data Availability | Foster | Feb. 26 |
| E | Mission Report Supplement | Fricke | Feb. 28 |
| F | Glossary | Fletcher | March 1 |
| R | References | Cordiner | March 1 |

^a5-Day report only.

Figure B-8.- Mission report schedule and responsible personnel.

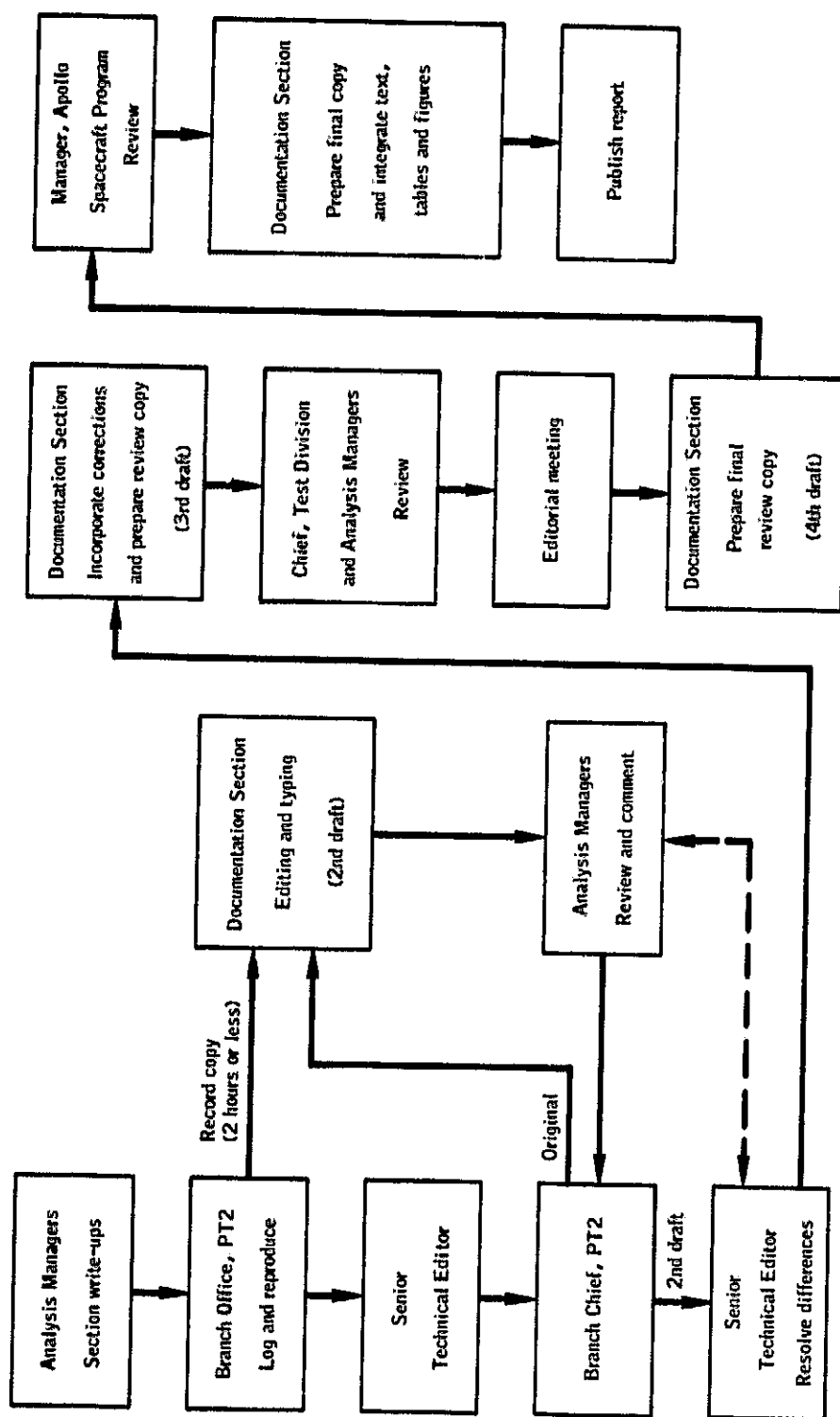


Figure B-7. - Mission report preparation flow chart.